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OHIO CULTIVATOR.

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EDITOR AND PROPRIETOR.

TERMS:

Single Subscriptions, or any number less than four, One Dollar each per year. Four copies, ordered at one time, (they need not be to one address,) Three Dollars, and at the same rate (*seventy five cents* each) for any larger number—payments in all cases to accompany the orders

"Onward, Still Onward!"

To the friends of Improvement in Ohio.

Another month will complete the fourth year of the Ohio Cultivator, and we take this occasion to say a few words in regard to the future.

First, then, let it be remembered that our motto, and the motto of the age, is "Onward." At a time like the present, when new discoveries and improvements afford daily new evidence of the rapid progress of mankind in every department of science and art, shall Agriculture, the foundation and support of all, be suffered to lag behind in the march of improvement, or lose her share in the rewards, through the *mental indolence* of her votaries?

Farmers of Ohio, the work of improvement has been well begun amongst you, and thousands of your number desire most ardently to see the work progress. It is true, that, compared with the mass, the number of reading, thinking, improving farmers in our State is but small; and some of you are at times inclined to despair of seeing their number greatly increased; but to such we would say, persevere, and in time success will crown your efforts. Look at the example of the "Empire State"—see what cheering results have been effected there within a few years, by the general diffusion of intelligence among farmers, through the means of *Agricultural Papers*, and Agricultural Societies. Hundreds of you were present at their great festival at Buffalo, a couple of months since, and the sight made you long to see the time when your own beloved State would also have her grand Annual Fair, and one that would be creditable to her as the second, if not the first agricultural State in the Union.

This is our desire and aim; and all that we ask to ensure this result, is to see the *Ohio Cultivator* circulating as generally among the farmers of Ohio, as the agricultural papers of New York have done throughout that State for the past ten years.

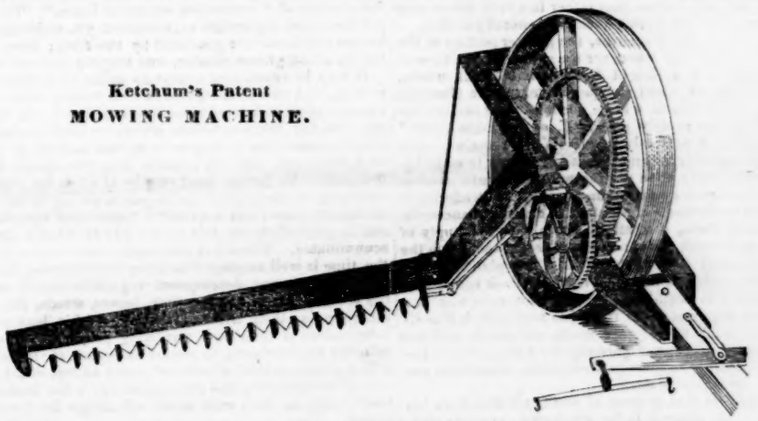
Then, too, our county Societies would be well sustained and eminently useful; and our State Board of Agriculture would feel convinced that the farmers would co-operate and sustain them in carrying forward such plans as might be adopted for promoting the cause of improvement throughout the State.

Our Next Volume,

Will commence January 1st, 1849. The form of the paper will then be changed to *Octavo*, making *sixteen* pages each number, instead of eight. This is done at the request of a large number of our subscribers, for the sake of greater convenience of binding. The amount of reading in each number will be the sane as at present, and it will be issued twice a month as heretofore, so as to give frequent intelligence of the markets, &c. We propose also to introduce a district Horticultural Department, for which several able contributors will be engaged. The Housewife's Department will be continued, and if the number of subscribers is increased so as to warrent the expense, a larger number of engravings will be inserted.

Terms the same as heretofore—Single copies $1,—four copies for $3.

Ketchum's Patent
MOWING MACHINE.



The above is a representation of the Mowing Machine to which allusion has several times been made in this paper, and which we think promises to be of much value to the farmers of Ohio and the West generally.

The operation of the Machine will be understood at a glance by those who have seen Hussey's reaping machine—the cutting apparatus being almost precisely the same; and on this account it is doubted whether it is not an infringement on the patent of Mr. Hussey. We think, however, that Mr. Ketchum has made several important improvements in the machine in the way of adapting it to mowing, and we hope he will be able to establish his claim, or make such an arrangement with Mr. Hussey, as to go on with the manufacture, and allow farmers the benefit of his improvements.

Mr. Ketchum's Machine is simple, and we think durable in its construction; made entirely of iron and steel, except the pole or tongue. At the Buffalo Fair he exhibited two forms of the machine, one differing from the above in the mode of geering, so as to dispense with the cog wheels. We are not sure which form will be found the best—probably the latter.

Letters for particular information can be addressed to Wm. Ketchum, Buffalo, N. Y.

How to Enrich Poor Lands.

The following valuable essay may afford much profitable instruction to Ohio farmers, although they may not as yet have any "Worn-out" lands to renovate. It will teach them how to enrich lands naturally poor, or that have been reduced by severe cropping—of this latter class we have seen not a few farms in Ohio, though the owners are not often readers of agricultural papers.

The editor of the American Farmer with commendable liberality awarded the writer of the following essay a premium of $50; and a second premium of $30 to the writer of another essay on the same subject.

Prize Essay on the RENOVATION OF WORN-OUT LANDS,

BY EDWARD STABLER,

Of Sandy Spring, Montgomery County, Maryland.

In submitting the following Essay upon the "Renovation of Worn-out Lands" it is deemed proper to state, that the writer understands the main object in view of the Editor of the American Farmer, to be, the eliciting of such information as is best adapted to the wants of the great majority of farmers; those who are dependent on the product of the soil for a support, and whose resources are comparatively limited: for although it may be equally desirable to those with more ample means, to improve their lands at the least expense of time and money, yet the number of such is comparatively small; and it is not perceived why the same plan may not suit both: the one who "lives by the sweat of his brow" improves his ten acres, while he with the "plethoric purse," may in the same time, enrich his hundred acres. With the view, therefore, to adapt it to the more numerous class of readers, the effort will be made to condense the essay as much as possible; and so plain, and free from technicalities, that "he that runs may read."

It is almost imposible to establish a theory, or mode of farming, that can be made to suit alike, all localities—of soil, climate, and the facilities of obtaining the various kinds of manure, now in use in different sections of the country. But it is believed that with proper energy and industry on the part of farmers, and even with the *present* facilities of transportation, an increase of double, if not quadruple the lime, marl, and bones might be used to advantage; the two former, in many sections of our country are inexhaustible for generations to come: and a much greater amount of the latter might be obtained in sections where they are not used, but greatly needed, if more attention was paid to their collection and preservation.

The first step I would advise towards the "Renovation of Worn-out Lands," is a complete and thorough draining, both surface and under drains, where the location and nature of the soil renders it too retentive of moisture late in the spring. It retards early seeding—the winter grains and grass roots are very liable to be thrown out and injured by frosts; and on such land, the injury from drought is much more severely felt. The writer has not known a case where this operation was performed with ordinary skill and judgment, that did not fully repay the expense; and in some cases the product was increased from five to ten fold.

To go into a full description of the methods used in different sections, to accomplish this most important branch of the husbandman's duty, would require diagrams, and also too much space; nor is it considered necessary; for in the "American Farmer," (which every tiller of the soil *ought* to possess) very full and ample information may be obtained on the subject. A few general observations here, may suffice. If the soil is rendered too wet by springs, whose *sources* are lower than the surrounding land, the drains must extend to at least the same level, be the distance and depth what they may; or to a sufficient depth below the surface, to admit of underdraining clear of the plough. This may sometimes be effected, by going *through* the *clay* sub-soil, and without much expense of ditching; as the water can then pass off through the under-stratum of gravel or sand.

Wherever the *under* drains will answer the purpose, they should be adopted; for the land thus reclaimed is often the most profitable for cultivation; and where the expense of brick, or tile, is too great, or suitable stone cannot be had to construct trunk drains, a good substitute is generally within reach, by 12 to 15 inches in depth of small loose stones; covering first with leaves, straw, or small brush, to prevent filling the interstices with the returned earth. Logs or poles, laid lengthwise, also form good under drains; but are more liable to clog from decay.

The next important step in my opinion, in "Renovating Worn-out Lands," is to plough deep, and thus expose a *new* surface to the action of frost, and atmospheric influence, in order to *make* a soil in place of the one provided by nature; but which either from cupidity, or bad management—perhaps both—man has destroyed.—It is considered *one* of the most certain means to attain this desirable end: and although sub-soil plowing is fully approved of, it is considered less important than to break up the earth from 7 to 10 inches, if the subsequent treatment is properly attended to.

The writer is well aware, that there is a strong feeling of prejudice in the minds of many individuals, against this practice. What are the arguments of the advocates of shallow plowing? They say in so many words, "our soil is only a few inches deep, and if we do not plow shallow, we shall turn up so much clay or *dead earth*, as to raise no crop at all." If two or three inches of soil is buried in the spring, under a bed of 5 or 6 inches of clay, and thus left without further aid, or preparation for a crop that season, the result would generally be, as stated.—That shallow plowing, enables the farmer to get clear much more readily of the little soil or mould, he may have on his worn-out lands, is susceptible of easy demonstration; nor is it less so, that either in a very *wet* or very *dry* season, the crop from this cause, generally suffers.

During the summer months, the greater portion of the rains fall hastily; and whenever the ground is not opened and pervious to a sufficient depth to imbibe the whole, before the surplus water can penetrate, and be absorbed by the compact subsoil, a large portion of the surface becomes *fluid*, and rapidly passes off, or "washes away," unless the land is perfectly level. What remains, after being so thoroughly saturated, has a tendency to settle into a compact mass; soon parting with its scanty supply of moisture, under a hot summer's sun, and rendering it impervious to the roots of plants. If a drought succeeds, a soil in such state, can afford but a meagre supply of moisture to nourish a crop; and at a period too, when the greatest amount is needed. Nearly all plants imbibe more or less moisture from the earth by their roots; and if this support is withheld, they cannot continue in a healthy and vigorous state: indeed so necessary is this element, that many of our grass seeds, and plants, will not only vegetate, but grow vigorously for a considerable period, with no other support to their roots, than what can be derived from pure water.

I am confident that in most of our lands that have become sterile, the cause is to be attributed, more to *shallow* plowing, and *washing away* of the little soil they possessed, than to the extraction of the vegetable nutriment, by the growth of plants; in fact it is almost a necessary consequence of this pernicious practice. If the toiling farmer or planter is able to purchase a dressing of mineral manure, or fortunate enough to scrape together a scanty supply of vegetable matter from the resources of the farm, a large portion of it is carried off by the first dashing rain, to enrich still more, the beds of *creeks* and *rivers*.

Having stated some of the disadvantages which attend shallow plowing, we will now briefly enumerate some of the advantages of deep plowing when judiciously pursued.

In the successful cultivation of all our crops, it is necessary that ample *food* be provided, and in an accessible form; and that moisture, equally necessary, be administered, in neither too *great* nor too *small* quantities. This will probably be admitted by all, and it is presumed the admission will also be made, that the greatest amount of nourishment derived by all our field crops is from the earth. By deep plowing, it rarely occurs that a fall of rain is so great or sudden, as completely to *saturate* the body of earth acted on by the plow; and until such is the case, but little danger is to be apprehended of "washing away;" and just as little, that the plants will so soon require a renewal of moisture, caused by evaporation.—The soil much longer retains its loose and friable texture, and enables the roots readily to extend in all directions, in search of their appropriate nourishment; for the same reason, deep tilth admits of closer proximity of the plants, without sustaining equal injury from drought, and turning yellow; or *firing*, in common parlance.

I would ask the advocates of shallow plowing, or the *skinning system*, as it has been aptly termed, if they have not observed the beneficial effects, of earths taken out of cellars, wells, pits, &c. when applied to very poor land? And have they not observed a luxuriant growth of grass and weeds on ditch banks and mill races; even to the highest points, when level enough to retain the moisture that falls? I have often noticed such effects; and have almost uniformly observed, that if earth thus taken from below the surface, was capable of being pulverized by frost or tillage, increased fertility was the result. Such being the case, is there any valid reason for supposing, that still nearer the surface, so much difference can exist, that while one will render the same land sterile, the other will positively enrich it? If advantage will result from mixing with the soil, the earth taken from many feet below the surface—and that such is the case I have had repeated evidence, and using it for this express object—I cannot perceive why a portion of the same fertilizing property may not be found in the earth, only a few inches or a foot below the surface. And last, though not least, in the catalogue of advantages, the all important item of manure, is rendered more available; and consequently, the land is both immmediately and permanently benefited.

But deep plowing alone, much as it is advocated, will not speedily make poor land rich. It also requires some judgment when, and to what extent it should be carried. Lands that are to be plowed much deeper than usual, should be broken up in the fall; no crop should be seeded the ensuing season, that does not admit of frequent plowing or harrowing; and if PRACTICABLE give it a dressing before planting, (unless previously prepared for the operation, by liming a year or two in advance) of lime, or some other kind of manure.

These two branches, viz: Draining and plowing are considered important in the system of renovation, and more might be added; but perhaps sufficient space has been devoted to them, with the further remark, that no land with clay subsoil, should be plowed either deep or shallow, when in a state too wet to crumble or break freely before the plow. The injury is irreparable, at least for that season, as nothing short of a winter's frost will effectually pulverize it.

We will now proceed to the third important step in the process of "renovating worn-out lands." The proper kind, and application of, manures: viz, stable manure and vegetable matter produced by the farm; lime, marl, bones, ashes, guano, plaster, and turning in green crops.

It may be considered almost an axiom in farming operations, that no one should go in debt for any kind of manures, unless in favored situations where the price is very low, and the transportation cheap, (except perhaps for lime) without first having fully availed himself of all his own resources; and his manure heap too, should be his first care. No farmer need ever be at a loss for *profitable* employment for himself and hands, in adding to his stock of this all important requisite to successful operations; and in preventing the loss and waste of what is already accumulated. When not necessarily otherwise engaged, the time is well employed in many situations by hauling the rich earth, and decomposed vegetable matter, which has accumulated in the marshes, leaves, weeds, &c., and incorporating them with the contents of his barn yard; independent of their own fertilizing properties, they are valuable as absorbents, to receive and retain the more volatile ingredients that otherwise might be lost in the process of fermentation and decomposition; a few bushels of plaster may be used with much advantage for the same object.

It was the maxim of a wise man, who began the world with nothing, and became independent—and that too, without the charge of dishonesty, or extortion ever having been alleged against him—that "a penny saved, is two pence gained." It is emphatically true, with regard to the saving, and judicious application of manure.

As an evidence of what care and attention in regard to making and saving manure will accomplish, it is within the knowledge of the writer, that two loads of manure (with two yoke of oxen have been hauled out this season, for every acre of arable land on the farm; and with a small exception, produced on the farm itself, without extraneous aid.

As germaine to our present purpose and object, I will here remark, that many farmers whose lands most require "renovating," keep too many horses; in nineteen cases out of twenty, and for nearly all farm purposes, one or two good yoke of Oxen are decidedly preferable. They cost no more at first, and will perform twice the labor; save in expense of harness, and still more in keeping; and after working 5 to 6 years under good management, are usually worth more than the first cost, for the shambles.

Marl.—I can say but little from experience, in the use of calcareous manures; but am fully satisfied both by information derived from others, and from personal observation, that wherever it abounds, it might be made A MINE OF WEALTH to the proprietor, and the adjacent districts which admit of water transportation.

The only apparent reason why they are not more so, is, either ignorance of its great fertilizing properties, or a lack of the necessary enterprise and industry TO BECOME RICH, when every facility for the purpose, is as it were, laid at their very doors. The quantity of marl required to the acre, to produce much beneficial result, does not admit of extended land transportation: but there are thousands, if not tens of thousands of acres, bordering on, and near tide water, both in this, and neighboring States, now thrown out as waste lands, because they will no longer yield even a stinted growth of vegetation; most, if not all of which, might readily be reclaimed by the judicious use of marl; and at one-fourth the cost per acre, that lands in the interior,—originally no better, if so good,—are made to yield 10 to 12 barrels of corn, or 30 to 40 bushels of wheat to the acre. I have been informed by some of the large landed proprietors—not owning, nor residing within less than 8 to 10 miles of the marl beds—that a boat load of a thousand to twelve hundred bushels of marl, rich in carbonate of lime, could be delivered at many of their landings, at an expense not exceeding 8 to $10. Yet not one bushel was ever used!!

But as was justly remarked, by one of these very intelligent and hospitable gentlemen, "it's no use to preach to a *deaf* congregation," and a further remark or two will only be added; not altogether without the hope that *something* will eventually "stir them up," and induce a trial at least, of this valuable manure. It matters less, how, when, or what quantity of Marl or Lime is applied; only MAKE THE APPLICATION, and that pretty liberally. Its application, like lime, is best made one, two or three years, and on the surface, before breaking up the land; and thus give it the benefit of the winter's frosts and snows to dissolve and incorporate it with the soil.

Lime.—This, next to the proper draining (when necessary: for even lime will not enable us to dispense with it) and deep tillage, I consider the most certain and permanent agent in "renovating worn-out lands," of any other substance with which I am acquainted; whether mineral, animal, or vegetable; and when it can be obtained at a reasonable cost, even with some miles hauling in addition, it is generally to be preferred, if only one kind of "bought manure" is to be used. It may however be used freely in conjunction with all other manures, and with decided advantage, if done with judgment.

After many years experience in the use of lime, I would advise in all cases where it can be accomplished, to spread it on the surface from 1 to 3 or 4 years, before the land is broken up. The effect of a single winter's frosts and rains, will more effectually dissolve and bring it into action, and benefit the succeeding crop, as also the land itself, than is attained in a longer period, by plowing it in as soon as applied. In this way also, a much larger quantity may be safely applied to the same land at a single dressing. As there is no loss to lime from atmospheric influence, it should be kept near the surface: and the *proper* quantity to use to the best advantage, can only be determined by the price, and the state the land may be in at the time. With a good sod of grass roots to receive it, 100 or even 150 bushels to the acre, *will do no harm:* but on stiff clays, with little soil or mould on the surface, 50 bushels would be a very liberal application as a first dressing, if put on immediately after plowing. It would be better to apply a less quantity at first, and renew it as soon as an increased growth of vegetation could be obtained.

When lime is applied in very large quantities, and immediately incorporated with a poor soil, having little or no vegetable matter in it, the *effect* is to combine with the silicious particles,—abounding more or less in all clay soils—and form hard compact masses, that are not separated by years of after tillage. This mode, therefore, to say the least, is like "burying the talent;" for so much capital lies dormant, and neither benefits the farmer or his land. Twenty-five or thirty bushels as a first application, particularly if aided by even a light dressing of vegetable manure, will make a much quicker return for the outlay.

As to the *modus operandi* of lime much has been written; and various, if not conflicting theories put forth; nor do all agree as to the most judicious mode of application.

I consider it altogether unnecessary here, to attempt any explanation of the chemical changes produced in the soil by its use, or to give my own opinion on the subject, though formed after careful observation and from years experience. To the inexperienced, however, it is of much more importance to be informed *how* to use it to the best advantage. And as previously remarked, it is of still less consequence, *how*, or *when* applied, SO THAT IT IS DONE.

Lime will act very beneficially, as I know from experience, on stiff tenacious clays, and so near a state of sterility, as scarcely to re-produce the seed sown on them.—But if used under such circumstances, and without the aid of any kind of manure, considerable time must elapse before much amelioration of the soil need be expected.

Theory without practice, does not often carry much weight with it; and on the mind of the farmer, generally speaking, it acts with less force perhaps than with most other classes in the community; for unless an array of facts, or good evidence, is adduced to inspire confidence, he is slow to change; the more so, when he knows that even a partial failure in a single crop, from experimenting, will be sensibly felt in his slender income, and perhaps for a year to come. This feeling, to a certain extent at least, is all right and proper; for experiments, to test any new theory, are best undertaken on a limited scale: *time* may be lost thereby, but *money may be saved in the end.*

I will now briefly give some account of the *practical* operation of my theory. My first application of lime to any extent, was 200 bushels, mostly air slaked, hauled 6 miles, and applied to 4 acres; just broken up for a corn crop, and harrowed in. This portion of the field particularly, was so thoroughly exhausted by previous bad management, that the yield in corn was only some 5 or 6 bushels to the acre; nor was the crop sensibly increased by the lime. As the main object in cultivation was to set the field in grass, the corn was followed by a crop of small grain, and a liberal supply of clover and timothy seed, and plaster: the latter producing no visible effect whatever; and nearly all the grass seed perished, leaving the surface as bare as before. But before the field again came in course for cultivation, the good effect of the lime was so evident by the growth of white clover—a *new* variety in that vicinity—that I was encouraged to lime the whole field containing about 12 acres, and also including this 4 acres; put on as before, just after breaking up for corn. The crop on this portion, was increased fully 5 to 6 fold, over that adjoining, and but recently limed; thus liberally paying all expenses, and has continued ever since to produce profitable crops. Plaster now acts on it with marked effect. The first application was made some 18 to 19 years since; and to test the *durability* of lime, these 4 acres have been kept for experiment, and without the addition of other manure; except a portion, intended for still further experiment. About 2 acres were sown in broad cast corn, with 2 0 lbs. Peruvian Guano—then fol-

lowed wheat on the 4 acres, and with 200 lbs. Guano to the acre, leaving 2 without guano.

The corn was materially benefitted by the Guano; but the wheat was *not* benefitted by the *previous* application of it, though it was nearly or quite doubled, over the two lands left without any Guano: the wheat was harvested two years since; and no one could now point out by the growth of the clover, uniformly good on the whole, and equally limed, which portion had and which had no Guano—the conclusion is, that the "renovating" effects of lime, are thus far, TEN times as durable as Guano; how much longer remains to be seen.

Some nine or ten years since, I determined to reclaim an adjoining field, at whatever cost. I was told long previous by one of my neighbors who sold his farm, and removed to the west, in order to settle on better land, that the attempt would be futile; or, if it ever was made productive, it would cost a great deal more than the land was worth. The prospect *was* forbidding; for the larger portion was as much reduced as could be, by shallow tillage, no manure, no grass seed sown, and constant washing, even to gullies, and producing little else than running briars. It was broken up in the fall and winter, to a much greater depth than it was ever plowed before; sixty bushels of quick lime to the acre, were applied in the spring, the ground well harrowed and planted in corn; such portions as required it, having been well underdrained—some 2 to 3 acres—and which were about the amount that produced anything of a crop, or that more than paid the expense of plowing. A crop of oats and grass seed followed; as it was not considered worth the trouble and expense to put in a crop of wheat, on 2-3 of the field. After 6 or 7 years, the same field again coming in course, exactly the same plan was pursued, as to plowing and lime; but rather increasing the depth than otherwise.

The crop of corn though injured by the bud worm, was good—enabling me to do, what I had rarely, or never done before, *sell* from ¼ to ½ of the crop. Oats followed, on about 2-3 of the field, with some 5 or 6 bushels of bones to the acre, and wheat on the balance, with Guano: both heavy crops, and lodging over the greater part of the field. Then followed a wheat crop on the whole; manured as much as possible from the barn yard, and on the balance, a light dressing of guano of some 80 to 100 pounds to the acre.

The average yield of the field, was over thirty-three bushels to the acre.

These results are attained with certainty; for every field and lot are accurately surveyed, and the contents noted on the plat of the Farm; and the product of this field was kept separate, threshed, and measured by itself. The greater portion suffered from the drought early last year; and the harvesting was badly done, owing to the fallen and tangled state of the grain from a storm, about the time of ripening; but I have no doubt, several contiguous acres might have been selected on the lowest ground (the portion under drained) on which the yield was over 40 bushels to the acre.* This season, the same field yielded the heaviest crop of grass I ever harvested; and even on what was originally the poorest part, there is now a luxuriant crop of second growth clover, and intended for seed, that is lodging over the whole extent. We will estimate the profit and loss by figures:

To 60 bushels of lime, cost at the kiln, 16c.....	$9,60
7 years interest, (though it paid in pasture in less time,).....	4,03
60 bushels of lime, cost at the kiln, 12½c....	7,50
3 years interest, ...	1,35
6 bushels ground Bones, at 50c.....	3,00
100 pounds Guano (African).....	2,00
	$27,48

CONTRA.

By 33 bushels of wheat, average price sold at 1,31.....	$43,23	
Estimate increase of corn crop, at least 6 barrels, at $2, (and entirely owing to the lime,).....	12,00	
Estimate increase of Oat crop " 2 bushels, at 40c.....	8,00	
Estimate increase of Hay " 1 ton.....	10,00	
Estimate *value* of clover seed, " (for there would have been none without the lime,) 1¼ bush. at $4,	6,00	79,23
		$51,75

Making, in round number, $50 per acre in favor of "renovating;" nor is the estimate a forced one. The actual increase of the crops is greater than the amounts assumed; and if a fair average was made of the wheat, in the joint crop of oats and wheat, the aggregate result would be increased some $5 to $6 per acre.

There should, perhaps, in the view of some, be a charge for draining, and for hauling and spreading the lime; also for the manure, for the crop of wheat; and for the expense of harvesting the *increased* crops.

*It was gleaned with the horse rake, and by the hogs, yet sufficient seed was left on the land, to produce this year, a *volunteer* crop of wheat with the grass, estimated by many who saw it, as well worth harvesting.

The two former, are amply paid for in the increased pasture; and the manure, was no more than the actual yield of the land itself, after the use of lime, &c. which are charged in the account, and at more than the cost: and it is believed the increased product in straw and fodder, fully repays the expense of harvesting: to say nothing of the present state of the land, as compared to what it was originally. It is now RADICALLY and PERMANENTLY, improved.

When Lime has been freely used, plaster will generally, if not always, act promptly and efficiently; and thus at very small expense, materially aid in perpetuating the improvement. Previous to its application in this case, plaster was liberally used, but with no visible effect whatever: now, its action is as marked on the *same* land, as I have ever seen any where.

Wherever lime can be obtained at a reasonable price—say from 12 to 20 cents per bushel in a caustic state (or at half price, if air slaked) with even 5 to 10 miles hauling, it may be used to advantage on most, if not all stiff clay soils.

In some sections these prices are paid, and it is hauled 15 to 20 miles; and by a class of men unsurpassed for industry and thrift. The writer has known no instance where its use was persevered in, under whatever disadvantage it might be, in which success, to a greater or less extent, did not crown the effort; and many who borrowed money to procure it, in the first instance, have mainly by its use, become independent: and *money lenders* themselves.

Bones—composed principally of phosphate of lime, and gelatinous animal matter, when crushed or ground, form one of the richest manures. It acts well either alone, or with other manures; and is particularly valuable to aid the growth of clover; for this reason, I class it decidedly before Guano, at an equal expenditure of money, for "renovating worn-out lands." Although not so prompt in acting, it is far more durable, and more likely to produce a good crop of clover, to turn under. Clover, being almost the only "green crop" that I have ever found much advantage from turning in.

I prefer its use, following the lime, and on the oat crop; at the rate of from 6 to 10 bushels—or as much more as the renovator may please, for an increased quantity will do *no injury*. On the wheat, succeeding the oats, my practice is, to apply a light dressing of Guano—say 50 to 100 pounds to the acre, to mature and perfect the grain; and only on such portions of the field, as the manure from the barn yard will not extend to. By the time the clover requires the aid of the bone, it will have become sufficiently disintegrated and incorporated with the soil, to give the clover a vigorous start; and its effect on the grass crops, is generally more durable than the vegetable manures.

The supply of *ground* bones is a limited one; but when to be had at a reasonable price (usually selling at 40 to 50 cents the bushel) it may be used to advantage on all crops and on all soils; but with decidedly *less* advantage, after passing through the *alembick* of the glue manufacturer; (as I have proved—at least to my satisfaction); thus depriving it of much of its fertilizing property. It is usually harrowed in with the seed, as it loses less by exposure to the atmosphere, than most kinds of putrescent manures.

Guano.—This is one of the most active of all manures; and if the price would justify the application in sufficient quantities, it might aid very materially in "renovating worn-out lands." But considering the evanescent nature of its most active principle, ammonia, and the present high market price, viz: the Peruvian, at $60 to $70—and the more inferior kinds at $45 to $55—for the ton of 2000 pounds, it is much doubted whether the ultimate advantage, calculated on by many, will be realized. If the Peruvian could be obtained at about *half* this price—and it is believed such would be the case with a fair competition in the Peruvian market—the case might be different.

The writer has made liberal use of Guano; and generally to profit, as to the immediate return; but in no case has much benefit been derived beyond the first crop; and rarely was any material effect perceived after the second year.

This opinion, so different from that entertained by some others, is not lightly formed, nor without several years careful observation; and also testing the matter by numerous experiments, and on a scale sufficiently extended, to prove the truth, or fallacy, of the doctrine held by some, that it is only a stimulant. Reference to one experiment may suffice, as they all tend to the same result, and nearly to the same degree.

In a field of some 10 acres, one acre was selected near the middle, and extending through the field, so as to embrace any difference of soil, should there be any. On this acre 200 pounds of Peruvian Guano, at a cost of about $5,00, were sown with the wheat. Adjoining the Guano on one side, was manure from the barn yard, at the rate of 25 cart loads to the acre; and on the opposite side (separated by an open drain the whole distance) ground bones were applied on the balance of the field, at a cost of $6,00 to the acre: the field equally limed two years preceding. There was no material difference in the time, or manner of seeding; except that the manure was lightly cross-plowed in, and the Guano and Bones harrowed in with the wheat.

The yield on the guanoed acre was thirty-five bushels; the adjoining acre with bone, as near as could be estimated by dozens, and compared with the Guano, was about 27 bushels; and the manured, about 24 bushels. The season was unusually dry; and the manured portion suffered more from this cause than either of the others; the land being considerably more elevated, and a south exposure.

The field has since been mowed three times; the *first* crop of grass was evidently in favor of the boned part; the second, and third, were fully two to one over the Guano, and also yielding much heavier crops of clover seed. On a part of one land, 18 bushels to the acre of the finest of the bone were used; on this, the wheat was as heavy as on the guanoed, and the grass generally lodges before harvest, as it also does on much of the adjoining land with 12 bushels of bone.

The action and durability of Guano, probably vary on different soils; and although it may generally be used to advantage in aid of a single crop, I have as yet, no satisfactory evidence, that its fertilizing properties are very durable: unless applied in such quantities, as may in the end "cost more than it comes to."

Guano should *not* be used with caustic lime, or ashes; nor very soon succeeding their application. It may with decided advantage be mixed with plaster, to fix and retain the ammonia; and for nearly, if not all crops, it is best to sow it broadcast, and *plow* in immediately.

Leached Ashes.—There are few, or none, who are ignorant of the value of this article as manure. But as the supply is rarely, if ever equal to the demand, much need not be said on the subject. At 8 to 10 cents per bushel, if the cost of transportation is not too heavy, they may always be profitably used; in durability they are next to lime, and the action immediate. Few comparatively, except within the vicinity of cities or villages, or those with water or rail road facilities, can procure, or afford to use them.

Poudrette.—Much profit has not resulted in the use of this (the merchantable) article, so far as I have observed its effects on my own, or the crops of others. Such as I have purchased, has as yet produced but slightly beneficial results on the crops to which it was applied. Its fertilizing property was diffused through such a mass of inert matter, that I concluded with half, if not one-third of the expense, more benefit might be derived from the purchase of some other kind of manure.

In the neighborhood of cities, where a supply can be obtained without so much adulteration, its use may be made very profitable.

Turning in Green Crops.—This plan of "renovating worn out lands," has long been advocated by many. I have also given it a fair trial; and with the exception of CLOVER as *the* green crop, little advantage has resulted from its adoption: *very poor* land, without some extraneous aid, will not produce a green crop worth the turning in. It is questionable, whether the same amount of time and labor (supposing the occupant without the means to purchase manure of any kind) could not be better employed on such land, in adding to his stock of manure, by composts; prepared from decaying vegetable matter, alluvial soil, &c. &c., abounding more or less on all farms. If the land possess fertility to produce sufficient clover for pasture, the use of plaster either without, or certainly *with* the aid of lime, will, with good management, make it yield a luxuriant crop. But it should be borne in mind, that to improve in this way, little mowing, and less pasturing, must be permitted The land is not only benefitted by what is *turned in*, but is also materially aided in the process of renovation, by what is *left out*, and on the surface; to shield and protect the soil from a parching sun, prevent throwing out the clover roots by the winter frosts, and washing away of the soil, by heavy dashing rains.

This brings to mind another matter, though perhaps not strictly "in the bargain," but which is of much more importance than many seem to be aware of; and as yet only incidentally alluded to. It is the *preservation* of the land after it *is* renovated, from washing away of the soil, and into gullies, and "galled places," as they are called: this is best done by regular water furrows made with the bar-share plow, and throwing the earth on the lower side. I will attempt a brief description of my plan of operations; but without a diagram, some may possibly be at a loss.

The points to *commence* at are determined by the eye; a cheap spirit level, costing but a trifle, will soon give the termination with precision, and the proper inclination.—The operator takes a station some 80 to 100 yards distant from the designated point; the assistant, having the staff, with a moveable target, and also a bundle of stakes, some 2 to 3 feet long, places one in the ground, and by its side raises the staff and moves the target up or down, to range with the sight from the level: the target is then *raised* 6 inches and confined by a screw; the assistant walks 17 steps, and raises his staff: the operator by merely turning his level, and not otherwise varying its position, soon determines the point for the second stake, by the assistant moving the *staff*, backwards or forwards, (keeping his distance from the first stake) until the target again ranges with the level; then set another stake, and raising the target six inches at each station, throughout the field. One position for the level, if selected with judgment, will

The writer is well aware, that there is a strong feeling of prejudice in the minds of many individuals, against this practice. What are the arguments of the advocates of shallow plowing? They say in so many words, "our soil is only a few inches deep, and if we do not plow shallow, we shall turn up so much clay or *dead earth*, as to raise no crop at all." If two or three inches of soil is buried in the spring, under a bed of 5 or 6 inches of clay, and thus left without further aid, or preparation for a crop that season, the result would generally be, as stated.—That shallow plowing, enables the farmer to get clear much more readily of the little soil or mould, he may have on his worn-out lands, is susceptible of easy demonstration; nor is it less so, that either in a very *wet* or very *dry* season, the crop from this cause, generally suffers.

During the summer months, the greater portion of the rains fall hastily; and whenever the ground is not opened and pervious to a sufficient depth to imbibe the whole, before the surplus water can penetrate, and be absorbed by the compact subsoil, a large portion of the surface becomes *fluid*, and rapidly passes off, or "washes away," unless the land is perfectly level. What remains, after being so thoroughly saturated, has a tendency to settle into a compact mass; soon parting with its scanty supply of moisture, under a hot summer's sun, and rendering it impervious to the roots of plants. If a drought succeeds, a soil in such state, can afford but a meagre supply of moisture to nourish a crop; and at a period too, when the greatest amount is needed. Nearly all plants imbibe more or less moisture from the earth by their roots; and if this support is wethheld, they cannot continue in a healthy and vigorous state: indeed so necessary is this element, that many of our grass seeds, and plants, will not only vegetate, but grow vigorously for a considerable period, with no other support to their roots, than what can be derived from pure water.

I am confident that in most of our lands that have become sterile, the cause is to be attributed. more to *shallow* plowing, and *washing away* of the little soil they possessed, than to the extraction of the vegetable nutriment, by the growth of plants; in fact it is almost a necessary consequence of this pernicious practice. If the toiling farmer or planter is able to purchase a dressing of mineral manure, or fortunate enough to scrape together a scanty supply of vegetable matter from the resources of the farm, a large portion of it is carried off by the first dashing rain, to enrich still more, the beds of *creeks* and *rivers*.

Having stated some of the disadvantages which attend shallow plowing, we will now briefly enumerate some of the advantages of deep plowing when judiciously pursued.

In the successful cultivation of all our crops, it is necessary that ample *food* be provided, and in an accessible form; and that moisture, equally necessary, be administered, in neither too *great* nor too *small* quantities. This will probably be admitted by all, and it is presumed the admission will also be made, that the greatest amount of nourishment derived by all our field crops is from the earth. By deep plowing, it rarely occurs that a fall of rain is so great or sudden, as completely to *saturate* the body of earth acted on by the plow; and until such is the case, but little danger is to be apprehended of "washing away;" and just as little, that the plants will so soon require a renewal of moisture, caused by evaporation.—The soil much longer retains its loose and friable texture, and enables the roots readily to extend in all directions, in search of their appropriate nourishment; for the same reason, deep tilth admits of closer proximity of the plants, without sustaining equal injury from drought, and turning yellow; or *firing*, in common parlance.

I would ask the advocates of shallow plowing, or the *skinning system*, as it has been aptly termed, if they have not observed the beneficial effects, of earths taken out of cellars, wells, pits, &c. when applied to very poor land? And have they not observed a luxuriant growth of grass and weeds on ditch banks and mill races; even to the highest points, when level enough to retain the moisture that falls? I have often noticed such effects; and have almost uniformly observed, that if earth thus taken from below the surface, was capable of being pulverized by frost or tillage, increased fertility was the result. Such being the case, is there any valid reason for supposing, that still nearer the surface, so much difference can exist, that while one will render the same land sterile, the other will positively enrich it? If advantage will result from mixing with the soil, the earth taken from many feet below the surface—and that such is the case I have had repeated evidence, and using it for this express object—I cannot perceive why a portion of the same fertilizing property may not be found in the earth, only a few inches or a foot below the surface. And last, though not least, in the catalogue of advantages, the all important item of manure, is rendered more available; and consequently, the land is both immmediately and permanently benefited.

But deep plowing alone, much as it is advocated, will not speedily make poor land rich. It also requires some judgment when, and to what extent it should be carried. Lands that are to be plowed much deeper than usual, should be broken up in the fall; no crop should be seeded the ensuing season, that does not admit of frequent plowing or harrowing; and if PRACTICABLE give it a dressing before planting, (unless previously prepared for the operation, by liming a year or two in advance) of lime, or some other kind of manure.

These two branches, viz: Draining and plowing are considered important in the system of renovation, and more might be added; but perhaps sufficient space has been devoted to them, with the further remark, that NO land with clay subsoil, should be plowed either deep or shallow, when in a state too wet to crumble or break freely before the plow. The injury is irreparable, at least for that season, as nothing short of a winter's frost will effectually pulverize it.

We will now proceed to the third important step in the process of "renovating worn-out lands." The proper kind, and application of, manures: viz, stable manure and vegetable matter produced by the farm; lime, marl, bones, ashes, guano, plaster, and turning in green crops.

It may be considered almost an axiom in farming operations, that no one should go in debt for any kind of manures, unless in favored situations where the price is very low, and the transportation cheap, (except perhaps for lime) without first having fully availed himself of all his own resources; and his manure heap too, should be his first care. No farmer need ever be at a loss for *profitable* employment for himself and hands, in adding to his stock of this all important requisite to successful operations; and in preventing the loss and waste of what is already accumulated. When not necessarily otherwise engaged, the time is well employed in many situations by hauling the rich earth, and decomposed vegetable matter, which has accumulated in the marshes, leaves, weeds, &c., and incorporating them with the contents of his barn yard; independent of their own fertilizing properties, they are valuable as absorbents, to receive and retain the more volatile ingredients that otherwise might be lost in the process of fermentation and decomposition; a few bushels of plaster may be used with much advantage for the same object.

It was the maxim of a wise man, who began the world with nothing, and became independent—and that too, without the charge of dishonesty, or extortion ever having been alleged against him—that "a penny saved, is two pence gained." It is emphatically true, with regard to the saving, and judicious application of manure.

As an evidence of what care and attention in regard to making and saving manure will accomplish, it is within the knowledge of the writer, that two loads of manure (with two yoke of oxen have been hauled out this season, for every acre of arable land on the farm; and with a small exception, produced on the farm itself, without extraneous aid.

As germaine to our present purpose and object, I will here remark, that many farmers whose lands most require "renovating," keep too many horses; in nineteen cases out of twenty, and for nearly all farm purposes, one or two good yoke of Oxen are decidedly preferable. They cost no more at first, and will perform twice the labor; save in expense of harness, and still more in keeping; and after working 5 to 6 years under good management, are usually worth more than the first cost, for the shambles.

Marl.—I can say but little from experience, in the use of calcareous manures; but am fully satisfied both by information derived from others, and from personal observation, that wherever it abounds, it might be made A MINE OF WEALTH to the proprietor, and the adjacent districts which admit of water transportation.

The only apparent reason why they are not more so, is, either ignorance of its great fertilizing properties, or a lack of the necessary enterprise and industry TO BECOME RICH, when every facility for the purpose, is as it were, laid at their very doors. The quantity of marl required to the acre, to produce much beneficial result, does not admit of extended land transportation: but there are thousands, if not tens of thousands of acres, bordering on, and near tide water, both in this, and neighboring States, now thrown out as waste lands, because they will no longer yield even a stinted growth of vegetation; most, if not all of which, might readily be reclaimed by the judicious use of marl; and at one-fourth the cost per acre, that lands in the interior,—originally no better, if so good,—are made to yield 10 to 12 barrels of corn, or 30 to 40 bushels of wheat to the acre. I have been informed by some of the large landed proprietors—not owning, nor residing within less than 8 to 10 miles of the marl beds—that a boat load of a thousand to twelve hundred bushels of marl, rich in carbonate of lime, could be delivered at many of their landings, at an expense not exceeding 8 to $10. Yet not one bushel was ever used!!

But as was justly remarked, by one of these very intelligent and hospitable gentlemen, "it's no use to preach to a *deaf* congregation," and a further remark or two will only be added; not altogether without the hope that *something* will eventually "stir them up," and induce a trial at least, of this valuable manure. It matters less, how, when, or what quantity of Marl or Lime is applied; only MAKE THE APPLICATION, and that pretty liberally. Its application, like lime, is best made one, two or three years, and on the surface, before breaking up the land; and thus give it the benefit of the winter's frosts and snows to dissolve and incorporate it with the soil.

Lime.—This, next to the proper draining (when necessary: for even lime will not enable us to dispense with it) and deep tillage, I consider the most certain and permanent agent in "renovating worn-out lands," of any other substance with which I am acquainted; whether mineral, animal, or vegetable; and when it can be obtained at a reasonable cost, even with some miles hauling in addition, it is generally to be preferred, if only one kind of "bought manure" is to be used. It may however be used freely in conjunction with all other manures, and with decided advantage, if done with judgment.

After many years experience in the use of lime, I would advise in all cases where it can be accomplished, to spread it on the surface from 1 to 3 or 4 years, before the land is broken up. The effect of a single winter's frosts and rains, will more effectually dissolve and bring it into action, and benefit the succeeding crop, as also the land itself, than is attained in a longer period, by plowing it in as soon as applied. In this way also, a much larger quantity may be safely applied to the same land at a single dressing. As there is no loss to lime from atmospheric influence, it should be kept near the surface: and the *proper* quantity to use to the best advantage, can only be determined by the price, and the state the land may be in at the time. With a good sod of grass roots to receive it, 100 or even 150 bushels to the acre, *will do no harm:* but on stiff clays, with little soil or mould on the surface, 50 bushels would be a very liberal application as a first dressing, if put on immediately after plowing. It would be better to apply a less quantity at first, and renew it as soon as an increased growth of vegetation could be obtained.

When lime is applied in very large quantities, and immediately incorporated with a poor soil, having little or no vegetable matter in it, the *effect* is to combine with the silicious particles,—abounding more or less in all clay soils—and form hard compact masses, that are not separated by years of after tillage. This mode, therefore, to say the least, is like "burying the talent;" for so much capital lies dormant, and neither benefits the farmer or his land. Twenty-five or thirty bushels as a first application, particularly if aided by even a light dressing of vegetable manure, will make a much quicker return for the outlay.

As to the *modus operandi* of lime much has been written; and various, if not conflicting theories put forth; nor do all agree as to the most judicious mode of application.

I consider it altogether unnecessary here, to attempt any explanation of the chemical changes produced in the soil by its use, or to give my own opinion on the subject, though formed after careful observation and from years experience. To the inexperienced, however, it is of much more importance to be informed *how* to use it to the best advantage. And as previously remarked, it is of still less consequence, *how*, or *when* applied, SO THAT IT IS DONE.

Lime will act very beneficially, as I know from experience, on stiff tenacious clays, and so near a state of sterility, as scarcely to re-produce the seed sown on them.—But if used under such circumstances, and without the aid of any kind of manure, considerable time must elapse before much amelioration of the soil need be expected.

Theory without practice, does not often carry much weight with it; and on the mind of the farmer, generally speaking, it acts with less force perhaps than with most other classes in the community; for unless an array of facts, or good evidence, is adduced to inspire confidence, he is slow to change; the more so, when he knows that even a partial failure in a single crop, from experimenting, will be sensibly felt in his slender income, and perhaps for a year to come. This feeling, to a certain extent at least, is all right and proper; for experiments, to test any new theory, are best undertaken on a limited scale: *time* may be lost thereby, but *money may be saved in the end.*

I will now briefly give some account of the *practical* operation of my theory. My first application of lime to any extent, was 200 bushels, mostly air slaked, hauled 6 miles, and applied to 4 acres; just broken up for a corn crop, and harrowed in. This portion of the field particularly, was so thoroughly exhausted by previous bad management, that the yield in corn was only some 5 or 6 bushels to the acre; nor was the crop sensibly increased by the lime. As the main object in cultivation was to set the field in grass, the corn was followed by a crop of small grain, and a liberal supply of clover and timothy seed, and plaster: the latter producing no visible effect whatever; and nearly all the grass seed perished, leaving the surface as bare as before. But before the field again came in course for cultivation, the good effect of the lime was so evident by the growth of white clover—a *new* variety in that vicinity—that I was encouraged to lime the whole field containing about 12 acres, and also including this 4 acres; put on as before, just after breaking up for corn. The crop on this portion, was increased fully 5 to 6 fold, over that adjoining, and but recently limed; thus liberally paying all expenses, and has continued ever since to produce profitable crops. Plaster now acts on it with marked effect. The first application was made some 18 to 19 years since; and to test the *durability* of lime, these 4 acres have been kept for experiment, and without the addition of other manure; except a portion, intended for still further experiment. About 2 acres were sown in broad cast corn, with 2 0 lbs. Peruvian Guano—then fol-

lowed wheat on the 4 acres, and with 200 lbs. Guano to the acre, leaving 2 without guano.

The corn was materially benefitted by the Guano; but the wheat was *not* benefitted by the *previous* application of it, though it was nearly or quite doubled, over the two lands left without any Guano: the wheat was harvested two years since; and no one could now point out by the growth of the clover, uniformly good on the whole, and equally limed, which portion had and which had no Guano—the conclusion is, that the "renovating" effects of lime, are thus far, TEN times as durable as Guano; how much longer remains to be seen.

Some nine or ten years since, I determined to reclaim an adjoining field, at whatever cost. I was told long previous by one of my neighbors who sold his farm, and removed to the west, in order to settle on better land, that the attempt would be futile; or, if it ever was made productive, it would cost a great deal more than the land was worth. The prospect *was* forbidding; for the larger portion was as much reduced as could be, by shallow tillage, no manure, no grass seed sown, and constant washing, even to gullies, and producing little else than running briars. It was broken up in the fall and winter, to a much greater depth than it was ever plowed before; sixty bushels of quick lime to the acre, were applied in the spring, the ground well harrowed and planted in corn; such portions as required it, having been well underdrained—some 2 to 3 acres—and which were about the amount that produced anything of a crop, or that more than paid the expense of plowing. A crop of oats and grass seed followed; as it was not considered worth the trouble and expense to put in a crop of wheat, on 2-3 of the field. After 6 or 7 years, the same field again coming in course, exactly the same plan was pursued, as to plowing and lime; but rather increasing the depth than otherwise.

The crop of corn though injured by the bud worm, was good—enabling me to do, what I had rarely, or never done before, *sell* from ¼ to ⅓ of the crop. Oats followed, on about 2-3 of the field, with some 5 or 6 bushels of bones to the acre, and wheat on the balance, with Guano: both heavy crops, and lodging over the greater part of the field. Then followed a wheat crop on the whole; manured as much as possible from the barn yard, and on the balance, a light dressing of guano of some 80 to 100 pounds to the acre.

The average yield of the field, was over thirty-three bushels to the acre.

These results are attained with certainty; for every field and lot are accurately surveyed, and the contents noted on the plat of the Farm; and the product of this field was kept separate, threshed, and measured by itself. The greater portion suffered from the drought early last year; and the harvesting was badly done, owing to the fallen and tangled state of the grain from a storm, about the time of ripening; but I have no doubt, several contiguous acres might have been selected on the lowest ground (the portion under drained) on which the yield was over 40 bushels to the acre.* This season, the same field yielded the heaviest crop of grass I ever harvested; and even on what was originally the poorest part, there is now a luxuriant crop of second growth clover, and intended for seed, that is lodging over the whole extent. We will estimate the profit and loss by figures:

To 60 bushels of lime, cost at the kiln, 16c.....	$9,60
7 years interest, (though it paid in pasture in less time,).....	4,03
60 bushels of lime, cost at the kiln, 12½c.....	7,50
3 years interest, ...	1,35
6 bushels ground Bones, at 50c.....	3,00
100 pounds Guano (African).....	2,00
	$27,48

CONTRA.

By 33 bushels of wheat, average price sold at 1,31.....	$43,23	
Estimate increase of corn crop, at least 6 barrels, at $2, (and entirely owing to the lime,).....	12,00	
Estimate increase of Oat crop " 2 bushels, at 40c.....	8,00	
Estimate increase of Hay " 1 ton.....	10,00	
Estimate *value* of clover seed, " (for there would have been none without the lime,) 1½ bush. at $4,	6,00	79,23
		$51,75

Making, in round number, $50 per acre in favor of "renovating;" nor is the estimate a forced one. The actual increase of the crops is greater than the amounts assumed; and if a fair average was made of the wheat, in the joint crop of oats and wheat, the aggregate result would be increased some $5 to $6 per acre.

There should, perhaps, in the view of some, be a charge for draining, and for hauling and spreading the lime; also for the manure, for the crop of wheat; and for the expense of harvesting the *increased* crops.

*It was gleaned with the horse rake, and by the hogs, yet sufficient seed was left on the land, to produce this year, a *volunteer* crop of wheat with the grass, estimated by many who saw it, as well worth harvesting.

The two former, are amply paid for in the increased pasture; and the manure, was no more than the actual yield of the land itself, after the use of lime, &c. which are charged in the account, and at more than the cost: and it is believed the increased product in straw and fodder, fully repays the expense of harvesting: to say nothing of the present state of the land, as compared to what it was originally. It is NOW RADICALLY AND PERMANENTLY, improved.

When Lime has been freely used, plaster will generally, if not always, act promptly and efficiently; and thus at very small expense, materially aid in perpetuating the improvement. Previous to its application in this case, plaster was liberally used, but with no visible effect whatever: now, its action is as marked on the *same* land, as I have ever seen any where.

Wherever lime can be obtained at a reasonable price—say from 12 to 20 cents per bushel in a caustic state (or at half price, if air slaked) with even 5 to 10 miles hauling, it may be used to advantage on most, if not all stiff clay soils.

In some sections these prices are paid, and it is hauled 15 to 20 miles; and by a class of men unsurpassed for industry and thrift. The writer has known no instance where its use was persevered in, under whatever disadvantage it might be, in which success, to a greater or less extent, did not crown the effort; and many who borrowed money to procure it, in the first instance, have mainly by its use, become independent: and *money lenders* themselves.

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The supply of *ground* bones is a limited one; but when to be had at a reasonable price (usually selling at 40 to 50 cents the bushel) it may be used to advantage on all crops and on all soils; but with decidedly *less* advantage, after passing through the *alembick* of the glue manufacturer; (as I have proved—at least to my satisfaction); thus depriving it of much of its fertilizing property. It is usually harrowed in with the seed, as it loses less by exposure to the atmosphere, than most kinds of putrescent manures.

Guano.—This is one of the most active of all manures; and if the price would justify the application in sufficient quantities, it might aid very materially in "renovating worn-out lands." But considering the evanescent nature of its most active principle, ammonia, and the present high market price, viz: the Peruvian, at $60 to $70—and the more inferior kinds at $45 to $55—for the ton of 2000 pounds, it is much doubted whether the ultimate advantage, calculated on by many, will be realized. If the Peruvian could be obtained at about *half* this price—and it is believed such would be the case with a fair competition in the Peruvian market—the case might be different.

The writer has made liberal use of Guano; and generally to profit, as to the immediate return; but in no case has much benefit been derived beyond the first crop; and rarely was any material effect perceived after the second year.

This opinion, so different from that entertained by some others, is not lightly formed, nor without several years careful observation; and also testing the matter by numerous experiments, and on a scale sufficiently extended, to prove the truth, or fallacy, of the doctrine held by some, that it is only a stimulant. Reference to one experiment may suffice, as they all tend to the same result, and nearly to the same degree.

In a field of some 10 acres, one acre was selected near the middle, and extending through the field, so as to embrace any difference of soil, should there be any. On this acre 200 pounds of Peruvian Guano, at a cost of about $5,00, were sown with the wheat. Adjoining the Guano on one side, was manure from the barn yard, at the rate of 25 cart loads to the acre; and on the opposite side (separated by an open drain the whole distance) ground bones were applied on the balance of the field, at a cost of $6,00 to the acre: the field equally limed two years preceding. There was no material difference in the time, or manner of seeding; except that the manure was lightly cross-plowed in, and the Guano and Bones harrowed in with the wheat.

The yield on the guanoed acre was thirty-five bushels; the adjoining acre with bone, as near as could be estimated by dozens, and compared with the Guano, was about 27 bushels; and the manured, about 24 bushels. The season was unusually dry; and the manured portion suffered more from this cause than either of the others; the land being considerably more elevated, and a south exposure.

The field has since been mowed three times; the *first* crop of grass was evidently in favor of the boned part; the second, and third, were fully two to one over the Guano, and also yielding much heavier crops of clover seed. On a part of one land, 18 bushels to the acre of the finest of the bone were used; on this, the wheat was as heavy as on the guanoed, and the grass generally lodges before harvest, as it also does on much of the adjoining land with 12 bushels of bone.

The action and durability of Guano, probably vary on different soils; and although it may generally be used to advantage in aid of a single crop, I have as yet, no satisfactory evidence, that its fertilizing properties are very durable: unless applied in such quantities, as may in the end "cost more than it comes to."

Guano should *not* be used with caustic lime, or ashes; nor very soon succeeding their application. It may with decided advantage be mixed with plaster, to fix and retain the ammonia; and for nearly, if not all crops, it is best to sow it broadcast, and *plow* in immediately.

Leached Ashes.—There are few, or none, who are ignorant of the value of this article as manure. But as the supply is rarely, if ever equal to the demand, much need not be said on the subject. At 8 to 10 cents per bushel, if the cost of transportation is not too heavy, they may always be profitably used; in durability they are next to lime, and the action immediate. Few comparatively, except within the vicinity of cities or villages, or those with water or rail road facilities, can procure, or afford to use them.

Poudrette.—Much profit has not resulted in the use of this (the merchantable) article, so far as I have observed its effects on my own, or the crops of others. Such as I have purchased, has as yet produced but slightly beneficial results on the crops to which it was applied. If its fertilizing property was diffused through such a mass of inert matter, that I concluded with half, if not one-third of the expense, more benefit might be derived from the purchase of some other kind of manure.

In the neighborhood of cities, where a supply can be obtained without so much adulteration, its use may be made very profitable.

Turning in Green Crops.—This plan of "renovating worn out lands," has long been advocated by many. I have also given it a fair trial; and with the exception of CLOVER as *the* green crop, little advantage has resulted from its adoption: *very poor* land, without some extraneous aid, will not produce a green crop worth the turning in. It is questionable, whether the same amount of time and labor (supposing the occupant without the means to purchase manure of any kind) could not be better employed on such land, in adding to his stock of manure, by composts; prepared from decaying vegetable matter, alluvial soil, &c. &c., abounding more or less on all farms. If the land possess fertility to produce sufficient clover for pasture, the use of plaster either without, or certainly *with* the aid of lime, will, with good management, make it yield a luxuriant crop. But it should be borne in mind, that to improve in this way, little mowing, and less pasturing, must be permitted The land is not only benefitted by what is *turned in*, but is also materially aided in the process of renovation, by what is *left out*, and on the surface; to shield and protect the soil from a parching sun, prevent throwing out the clover roots by the winter frosts, and washing away of the soil, by heavy dashing rains.

This brings to mind another matter, though perhaps not strictly "in the bargain," but which is of much more importance than many seem to be aware of; and as yet only incidentally alluded to. It is the *preservation* of the land after it *is* renovated, from washing away of the soil, and into gullies, and "galled places," as they are called: this is best done by regular water furrows made with the bar-share plow, and throwing the earth on the lower side. I will attempt a brief description of my plan of operations; but without a diagram, some may possibly be at a loss.

The points to *commence* at are determined by the eye; a cheap spirit level, costing but a trifle, will soon give the termination with precision, and the proper inclination.—The operator takes a station some 80 to 100 yards distant from the designated point; the assistant, having the staff, with a moveable target, and also a bundle of stakes, some 2 to 3 feet long, places one in the ground, and by its side raises the staff and moves the target up or down, to range with the sight from the level: the target is then *raised* 6 inches and confined by a screw; the assistant walks 17 steps, and raises his staff: the operator by merely turning his level, and not otherwise varying its position, soon determines the point for the second stake, by the assistant moving the *staff*, backwards or forwards, (keeping his distance from the first stake) until the target again ranges with the level; then set another stake, and raising the target six inches at each station, throughout the field. One position for the level, if selected with judgment, will

serve for 8 or 10 sights; they should be taken in *advance*, and on, or near the *supposed* line of the furrow. With a little practice the levelling is done very expeditiously, and by any person of ordinary capacity. When ready for the plow, the leveller walks before it, (the plowman guided by his steps) picks up the stakes as they are reached,—and if necessary by much inequality in the land—varies the line a little between the stakes, still more to preserve the level.

This gives a uniform escape for all surplus water, with a regular fall of about one foot in the hundred. My experience has proved, that if the furrows are not too far apart, (one for each fall of 5 to 6 feet will generally suffice) they effectually prevent washing; and the gradual descent of the water does not form gullies. They are made directly after seeding wheat—are as carefully attended to as the seeding itself—and remain open until the land is again broken up. They are valueable on all lands liable to wash, and have materially aided in my efforts in "renovating worn-out lands." All the unsightly "gullies and galled places" have disappeared.

Rotation of Crops.—This is also a subject of importance; and it is also one on which much diversity of opinion exists. Nothing short of the concurrent testimony of a neighborhood, will establish one plan as the best: yet in another, a different one has equally strong advocates: for in some sections of the country "the three field shift" is preferred—in another, five, and a third will adopt the six or seven field rotation. Different "localities," and other circumstances, may perhaps afford good grounds for this variety of opinion. But as a general rule, it is believed that where the latter mode is adopted, or nearly so, other circumstances being equal, the farming is better done, is more profitable, and the lands more permanently, if not more rapidly improved: close pasturing, and "renovating worn out lands," may do in theory, but are not very likely to succeed in practice. The seven field rotation, certainly admits of a better opportunity to benefit by the aid of the artificial grasses; and whenever they can be successfully invoked, the good work is more than half accomplished.

Before taking leave of my readers, the majority of whom perhaps are engaged in agricultural pursuits, I would again briefly recur to the important subject of Manures,—one of scarcely less moment to the tiller of the soil, than is the Mariner's Compass to the tempest-tossed sailor—for mainly to their agency in some form or other, must we be indebted for success, in the renovation of worn-out lands. My preference, as may have been seen, is given to Lime over all others, when an expenditure of the slender resources of the farm is devoted to this object; and although it is not a Panacea, to cure all the ills incident to the calling, nor will it, like the fabled Satyr, "blow *hot* and *cold* with the same breath," yet on all soils to which I have seen it applied,—from the stiffest clays, to the blowing sands,—does it appear to be a renovator in a greater or less degree: the one, it will lighten and mellow, while the other is rendered more compact, and more retentive of moisture. I would therefore strongly advise the use of LIME, as decidedly the most efficient and durable agent, for improving most kinds of soils. If its action may be considered comparatively slow, IT IS SURE, in its fertilizing effects; and will generally in the end, prove also to be the most economical, whenever it can be obtained at a reasonable price.

The three kinds of "bought manures" most extensively in use in this State for improving our worn-out lands (Plaster of course excepted) might be classed somewhat like the following: Lime, for the *landlord*, Guano for the *tenant*, and ground Bones for *both*. All *may* be used to profit under favorable circumstances; but they are believed to differ materially in their relative values, in proportion to the amount of money usually expended, if the improvement of land, is a primary object with the husbandman.

Experience, however, in this, as well as in most other things, is the best teacher; provided we do not pay too dear for it. And without intending in the least degree, to check the energy and spirit of agricultural improvement, now so widely extending, I would venture a caution to those who have but little money to expend for the purchase of high priced manures, to do it rather for such as are *known* to be durable; and which will eventually, be the most certain to return both principal and interest. I feel confident that all I have expended for lime, has been returned in the increased product of the soil; and with nearer six *times* six, than 6 per cent. interest. If the market value of the land, has not been enhanced in equal proportion (most probably the case) it certainly has not *deteriorated* any in *quality*.

As remarked at the beginning of my essay, no exclusive method of improvement, is alike suited to all locations, and circumstances; but I trust a plan is submitted that will very generally succeed if persevered in; it will not only make the grain, but the grass grow; and will at the same time, effectually "RENOVATE WORN OUT LANDS."

EDWARD STABLER,

Harewood, 8th *mo.* 28, 1848.

A soul conversant with virtue resembles a fountain; for it is clear, gentle, sweet, communicative, rich, harmless, and innocent.

OHIO CULTIVATOR.

COLUMBUS, OHIO, NOVEMBER 15, 1848.

THE ANNUAL MEETING of the State Board of Agriculture, it will be seen, occurs two days after the assembling of the Ohio Legislature. We hope all the county societies will appoint delegates, and send in their reports at that time; and if any amendments are desired in the rules of the Board for regulating county societies, the matter should be proposed at this meeting. The subject of *District Fairs*, and the future operations of the Board generally, will then be discussed, and the Delegates should come prepared to state the views of their constituents in relation thereto.

CLERMONT COUNTY AG. SOC.—In our list of Fairs published during the past two or three months, we put down *Clermont* as a *township* society. The secretary reminds us that this is an error—it was changed the past year to a *county* society; but it is not organized under the State law, so as to draw funds from the county treasury. We have seen no report of its Fair.

We hope to pay our Clermont friends a visit next spring or summer. Our subscription books show Clermont to be one of the best counties in the State.

Albany Cultivator Burnt Out.—The Office of the Albany Cultivator was destroyed by fire about the first inst., including the entire edition of that paper for the present month and much other valuable property, belonging to the publisher, not much of which was covered by insurance. We sympathise with friend Tucker in this truly vexatious calamity and severe loss.

The Agricultural warehouse of Mr. Emery was also destroyed, but it appears that his loss is not very great.

"THE PLOW, LOOM, AND ANVIL."—In the notice of this work in our last, we stated the terms to be $2 per year. This is a slight mistake as we learn from a notice in one of our exchanges, (no terms being given in the work before us!) The terms it appears, are, single copy $3—two for $5, and five for $10. Cheap enough, we say.

New Species of Curculio, on Grapes.

Many horticulturists have noticed that injury has been done to the grape crop, the past two or three seasons, by an insect supposed to be the *curculio*, which destroys the plums and other stone fruit.

Mr. N. W. Thatcher, an observing horticulturist, remarked to us the past summer that his grapes were much injured by this new enemy, and he had discovered that the cause of the mischief was a different species of curculio from that which destroys the plums, &c., being considerably smaller, darker colored, and of a rounder and smoother form.

At our request he preserved and sent to us a few specimens of this insect, together with some of the common kind. The one found on the grape, is entirly new to us, and we have not seen any published description of it. It is only about one third as large as the common species, its color nearly black, and its form (when dead) is nearly round. It has a beak, or proboscis similar to the common species, and we presume it belongs to the same genus, (*Rhynchænus,*) and its habits are the same; but of this we are not certain. We will send a part of the specimens to Dr. Harris and ask his opinion concerning them; also to our friend Jenison, of Dayton, who may possibly recognize it as an old acquaintance from Continental Europe.

Along with the insects above mentioned we received a number of bunches of choice grapes, from Mr. Thatcher, which we forgot to acknowledge at the time, owing to domestic affliction.

P. S. Since receiving the insects from Mr. Thatcher, another grape culturist has informed us that he discovered the same insect, on his grapes the past summer, but we have forgotten the name of the individual.

Ohio State Board of Agriculture.

THE ANNUAL MEETING of the State Board of Agriculture, will be held at Columbus, on Wednesday the 6th of December, (in the city council chamber.)

At this meeting delegates from county Agricultural Societies will be in attendance, and are expected to hand in the reports from their societies, if not previously sent. It is also their duty to elect at that time five new members of the Board, to serve for two years, in place of Messrs. Watts, Codding, Kirtland, Moore and Bateham, whose term of service will then expire. The Delegates are also expected to give such verbal statements of the condition and pospects of their several societies as they may see fit, and offer such suggestions in reference to the action of the Board, as may tend to promote the prosperity of the societies, and the general interests of agriculture.

Officers of the Board will also be elected at this meeting for the ensuing year.

M. B. BATEHAM, *Secretary.*

Circular to Counties.

The follwing is a copy of the interrogatories contained in the circular recently issued by the State Board of Agriculture for information to be embodied in the next annual Report.

FROM THE COUNTY OF———

BY———

1. What are the three or four principal farm crops of your county, stated in the order of their relative value or amount?

2. Supply the information called for in the following table, by estimates founded on personal observation and inquiry from others.

	Average yield per acre 1848.	Average yield the past 4 or 5 years.	Was the quality good this year?	Average price in nearest market.	Any remarks.
Corn,					
Wheat,					
Oats,					
Rye,					
Barley,					
Buckwheat,					
Potatoes,					
Hay,					
Tobacco,					

3. Mention any other farm crops, worthy of notice produced in your county.

4. If any of the crops were materially injured by any cause the past year, state which, and by what cause?

5. If any remedy or means of preventing this injury was discovered, state the same.

6. What are the chief articles of export from your county, and where are they mostly purchased or shipped?

7. If you have any reliable statistics of the aggregate amount of any productions, as wheat, flour, pork, cheese, wool, &c., or shipments of the same, append them to this report and state the source whence obtained.

8. State, if you can, the number of mills and manufactories of different kinds, in the county—not including ordinary mechanics' shops.

9. Finally, add any other facts or suggestions that may be thought useful or interesting, in regard to your county—its improvements in agriculture and manufactures—the increase of settlers, if new, price of lands, introduction of improved farm stock or implements, &c.

Raising Seedling Grapes.

MR. BATEHAM.—I notice in the last Cultivator, the offer of Mr. Longworth to give a premium of $50, each, for several new seedling grapes, of the kinds and qualities named. And he states that the character of seedlings may be judged in a good degree by the foliage. Now, will you or some one of your correspondents inform us when and how, to sow the seeds of grapes, and also, how to judge the character of the plants by the foliage.

Yours, &c., XENIA.

ANSWER.—In regard to the manner of judging by the leaf what will be the probable character of the fruit, we believe the *size* of the leaf is the only criterion—large

leaves generally indicating large fruit. The following extract from a late number of the N. Y. Farmer and Mechanic, will serve as an answer to the other part of our friend's inqiury:

"Grape vines are very easily raised from seed. We now have 4 or 5 0 seedlings, from more than 20 different varieties, on which we intend, by the permission of Providence, to make experiments by bringing them into bearing. The following is the mode to raise vines from seed. Save the seeds when the grapes are ripe, mark them, as it is desirable to trace the pedigree of a new fruit.

Late in the fall, sow them in a rather light mellow soil, like a good garden, covering them 2-3 of an inch deep.—If sowing be delayed till spring, put the seeds into loam in the fall, or early in winter, and bury in earth, or place in the cellar, and keep gently moist, which is best done by putting them into a tight stone or earthen vessel, covering the earth with damp moss or cloth, and placing in a close box or chest. It is less trouble to sow in the fall, especially where one has various kinds. It does not materially injure the seeds to dry in the fall, though they might vegetate earlier if put into loam as soon as taken from the grape. But if they are kept dry till spring sowing, only a few will vegetate the first year, unless sowed unusually early. Grape seeds often vegetate rather late in the spring, generally later than apple, pear, &c."

ANOTHER LETTER.—Mr. J. Stough of Bucyrus, writes us as follows:

"I have given some attention to raising grapes from seed, and have succeeded so well that I am convinced with proper attention great improvements may be effected in that way. I have the Isabella, Catawba and other varieties, but I have seedlings that I think superior to either of these. My best seedling exceeds the original kinds in being of much stronger growth, larger leaves, more productive, and finer quality of fruit."

REMARKS.—We would advise friend Stough, to send some bunches of his seedling grape, (with specimens of the foliage) when ripe next season, to Mr. Longworth, or to the Cincinnati Horticultural Society—also to the Columbus Horticultural Society. It would be desirable, also, to know what variety the seed was taken from which produced this improved kind, and whether the parent vine grew contiguous to other varieties.

We hope that Mr. Longworth will be called on to pay several of those premiums within two or three years; and we doubt not it will give him real pleasure to do so, as soon as the terms are fulfilled.

CULTIVATE THE MIND.—Farmers, now that the labors of the field are mostly over, let the culture of the MIND have its due share of your regard. Remember, it is the immortal *mind* which elevates man above the brute of the field; and in proportion as the mind is cultivated and improved, does the man rise higher and higher in the scale of being. How precious then should every farmer consider these long evenings, and days of comparative leisure. And how careful he should be to provide a supply of the best books and periodicals as means of intellectual culture.

Speak, also, to that neighbor, who through hardship and defective education, has suffered his mind to run to waste, and like a neglected garden is filled with the weeds of ignorance and prejudice; try and pursuade him to begin the work of mental culture, and especially to see that his children, if he has any, are not suffered to grow up in ignorance, a disgrace to our State and the farmer's profession. And, last, but not least, pursuade him, and all the rest of your neighbors to join you in sending for the next volume of the Ohio Cultivator—then you will no doubt see them become better farmers and better neighbors.—This will surely be sufficient reward!

Hamilton County.

FAIR AT CARTHAGE, SEPTEMBER 29 AND 30.

We observed but little notice taken of this Fair, by the Cincinnati papers, hence we conclude that the editors, and probably a majority of the farmers too, were so much engaged in politics that they could not bestow any time or thought on such an *unimportant* subject as AGRICULTURE! One editor who was present remarks, that "considering the pecuniary and social interest which the people of this county have in an improved state of agriculture, the wealth, intelligence, and numbers of our population, the attendence and display were meagre. We are gratified, however, to perceive that a sense of the importance of these exhibitions is prevailing more widely among farmers than heretofore. We can but augur the best results from such a feeling to the most important, most healthful and delightful of the various branches of industry."

We should judge from the accounts that the show, was on the whole, highly interesting and respectable.

J. W. Caldwell, Esq., president of the society, and Mr. Charles Duffield, Secretary, were actively engaged in their respective duties. Mr. T. C. Peters, of Buffalo, N. Y., was present and made a short address. Mr. Emery, of Albany was in attendance with an assortment of implements from his Agricultural Warehouse, among them were Wheeler's horse-power and thresher, and circular saw, which attracted much attention, and obtained several purchasers.

Hamilton County ought to have the most numerous and spirited agricultural society in the State, but this will not be, so long as the members allow their thoughts and feeling to be all absorbed in political strife, and even a majority of the officers care too little about the subject to read a paper devoted to agricultural improvement. (This is not designed for our friend Duffield.)

Guernsey County.

FAIR AT CAMBRIDGE, OCTOBER.

A letter received by us from the Secretary, says:

Our Fair was well attended on both days, and an increasing interest manifested, notwithstanding the high state of political excitement now possessing the public mind, to the great detriment of every other good object. The show of animals, implements, manufactures, crops, fruits &c., was not as large as we had expected; but the number of members was considerably greater than last year. The premiums awarded amount to $120 or $130, including books and agricultural papers.

In the afternoon a large assemblage of citizens was addressed by MR. GASTON, president of the Society, and by C. SPRINGER, president of the Muskingum society.

The following named persons were elected officers of the society for the ensuing year.

M. GASTON, *President*,
ROBT. B. MOORE, *Vice President.*
C. J. ALBRIGHT, *Secretary*,
MOSES SARCHET, *Treasurer.*

Gordon Lofland, Wm. Bell, Wm. Baunell, Thos. Oldham and Jonathan Bye, *managers.*

Harrison County.

FAIR AT CADIZ, OCTOBER, 26 AND 27.

The report of the Society, published in the county papers says:

"There were present a large concourse of people—perhaps double as many as last year.

There was a good exhibition of Horses, of the various classes, except Stallions, of which there were few good ones. There was a "Morgan Tiger" Stallion (of the famous "Morgan" breed of horses,) imported from Vermont, by James and William Ladd, of Jefferson county, which was an excellent horse—a good mover, and a strong, active, and showy horse, but of small size. He was not offered for a premium.

Of Cattle, there were but few, and all of them of the Durham breed,—good animals for the stall—their milking qualities perhaps not so certain. It is to be regretted that there were not a larger number of Cattle, particularly of good Milch Cows, of any breed whatever.

There were but few Swine on the ground, and they were not remarkable in any way.

There were a considerable number of Sheep, chiefly of the very fine wooled Merino and Saxony, or mixed. It is regretted that there were not some heavier fleeced, and other breeds, present."

On the second day, there was a plowing match, and an interesting show of domestic manufactures, including butter, cheese, &c., at the court house.

The following named persons were elected officers of the Society for the ensuing year:

THOMAS LEE, *President*,
STEWART SHOTWELL, *Vice Pres't.*
EZRA CATTELL, *Secretary*,
ABRAHAM HOLMES, *Treasurer.*

John Haverfield, Walter B. Beebe, John Hammond, Johnson Craig, and John Carnahan. *Managers.*

Among the premiums awarded by the Harrison county Society, we notice, two on *farms*, viz: 1st to J. C. Thompson, and 2d to John Hammond. On *Corn* 1st to W. Smith, for 343 bushels on 3 acres; 2d to J. Thomas for 331½ bushels on 3 acres; 3d to M. T. Johnson, for 329½ bushels on 3 acres. On *Oats*, to Geo. Holmes for 58½ bu. per acre. On *Timothy seed*, to A. Booth, for 7½ bu. per acre.

Clark and Madison.

FAIR AT LONDON, OCTOBER 12 AND 13.

A notice in the *Springfield Republic* says:

This Fair was attended with much more interest than was expected. The animals and articles were of a good quality. The first day was devoted to the exhibition of animals alone; most of the animals shown were equal, if not superior, to any ever shown in the district. There was not as much stock of the different varieties shown as ought to have been, but the interest manifested was very good. The second day's exhibition was one of the right spirit; there were not as many articles offered as ought to have been; our mechanics were very backward. The articles offered were all good; some of an excellent quality by girls of twelve years of age. The Society is prepared for a large fair next year, when there will be a separate scale of premiums offered for the encouragement of boys and girls under age.

Among the premiums awarded, we notice one on *wheat* to J. F. Harrison, for a crop of thirty-seven bushels and one peck per acre; and on *Corn*, to Jesse Wise for a crop of ninety-two bushels per acre.

Ashtabula County.

FAIR AT JEFFERSON, SEPT. 14.

From a report of this Exhibition published in the Ashtabula Sentinel, we infer that the attendance was good, and the display of articles quite fair, although it appears that the financial condition of the Society is not as flourishing as it should be.

The Committee on farm crops, give the statements of two competitors, which we copy as somewhat instructive, as well as remarkable, considering that the county is not so much noted for its grain crops as for grass.

CROP OF WHEAT.—STATEMENT OF JAMES D. RAY.—Ground, (in 1844,) owing to bad cultivation, too poor to produce enough of any crop to pay for tillage. In the summer of 1845, the land was ploughed. In August following, there were twelve loads of ashes containing a small per cent. of lime, spread upon each acre. These were thoroughly mixed with the soil by ploughing, and then the field was sown with wheat. There was a good prospect for a fair yield of wheat till sometime in May, 1846, when there occurred a severe frost that nearly ruined the crop. This field was then pastured till June, 1847, at which time there was a heavy growth of white clover covering the entire surface of the ground. This was carefully ploughed under and suffered to lie till the 20th of August, when the land was thoroughly harrowed, and then, by cross ploughing, thrown into beds from 14 to 16 feet wide. Sowed about the 25th of Aug. and harrowed the seed in. Yield, thirty-five bushels per acre.

CROP OF CORN.—STATEMENT OF J. WARNER, JR.—The piece of ground upon which my corn was raised was old meadow, ploughed, or turned over early in April. It was left till May, then I rolled and harrowed it, and planted the corn in rows four feet apart, with one barn shovelfull of manure in each hill. The planting was completed about the 10th day of May. Kind of corn planted, yellow dent.

Calling two bushels of ears equal to one of shelled corn, I have ninety bushels of corn per acre; but calling one bushel and a half of ears equal to one bushel shelled corn, I have a product of one hundred and twenty bushels shelled corn per acre.

THE FINANCIAL CONDITION of the Ashtabula Society, it appears by the report of the treasurer, is somewhat discouraging; and he appeals to "the farmers and mechanics of the county to say whether they will go forward and sustain the society and make it an institution of interest and profit, or whether it shall go down and they have it to report to the State Board of Agriculture that Ashtabula county is unable to sustain an Agricultural Society."

From what we can discover by the report, however, it appears to us that the officers of the Society are more at fault than its members. It appears that last year the treasurer received $53 from members, and $53 from the county—making in all $106, which sum just about paid the premiums, &c., for that year. But this year only $43 has been received from members—and, *nothing* from the county treasury, owing we suppose, to the negligence of the officers in not complying with the law by sending a proper report to the State Board, the past season, thereby failing to obtain the necessary certificate.

Another evidence of mismanagement, appears on the face of the report of the late exhibition. It is stated by the treasurer, that only $43 had been received as fees from members; whereas the names of not less than sixty competitors for premiums are given, and this only in the list of premiums or honors—so that one would suppose

that many others are not mentioned. Now, as the law requires all competitors to be members of the society, and all members to pay $1 each, how has the law been complied with in this case?

From what we have seen of the farmers and mechanics of Ashtabula, they are not essentially different from those of Portage, Lorain, Trumbull and Mahoning, and we doubt not, with the same kind of management a flourishing society could be sustained in that county as well as in these. ☞ But the *officers* and leading members, at least, must be readers of agricultural papers, so as to have their minds interested in the work, and be stimulated to action by learning what is being done in other counties, and in other States. All experience proves that agricultural Societies cannot be sustained where a goodly number of the farmers do not read agricultural papers.

Wesley, Barlow and Roxbury Townships.

Fair at Roxbury, October 17.

Besides the Washington County Society, whose Fair at Marietta we have noticed, there is another agricultural society sustained with a good degree of spirit, in the townships of Wesley, Barlow and Roxbury, in the north part of the county. The following notice of their Fair was communicated to the Marietta Intelligencer:—

The day was very unfavorable; it commenced raining during the night, and continued to rain almost without intermission until after 9 o'clock, with occasional showers through the day, making the roads muddy, slippery and disagreeable. I supposed our fair this time would prove a failure, but when I came on the ground I was agreeably surprised to a find larger collection of people, stock &c., than we have ever had before.

The show in horses was particularly good, and the competition large and exciting. I had not supposed that this district could furnish such superior brood mares, and one and two year old colts: and I think all were satisfied that the best we have were there. Work cattle too were plenty and good: not those large masses of beef that are only fit to eat and be eaten, but compact close built cattle, combining strength and endurance. I heard several remark that they had never seen better two year old work cattle and two year old colts than was there exhibited.

Sheep and hogs too were plenty. In their breed of hogs, the Palmer settlement is hard to beat.

In farming implements the show was very defective.—Few farmers seem to realize the difference between the first rate implement, and a common one, both in the quantity of work performed and the ease with which it is done; but even this is not so important as the superior quality of the work performed by a first rate implement. We may frequently raise two or three bushels of wheat on an acre more when it is put in with a first rate plow, than when the work is performed by an inferior one; and I know of no better means for us to improve our agricultural implements, than to bring them together frequently, and compare them, and by that means be able to choose the best.

A new feature in our society the present year, has been the appointment of a committee to examine such farms as the owners may desire, and award premiums on such as they consider the best managed. Our fairs heretofore have enabled us to compare our stock, our crops, and our implements, but this will enable us to compare our farms, and the manner in which we perform our various farming operations. I anticipate greater benefit from this than from any other part of our society's operations.

This has been our fourth show, each better attended with a better show of stock, and farming implements than the preceding. This is the more remarkable, considering the fact, that our premiums are little more than nominal; our only source of revenue being fifty cents from each of the members of the society, while the county society, having the use of the public funds, with a much more extended list of premiums, each more than quadruple that of ours, have not been able to raise a better show of stock, and that on an average but little superior in quality. I am strongly inclined to the belief that agricultural societies confined to a small extent of territory and so organized that the mass of the farmers will take an interest in its proceedings, would be more profitable to that part of the community which most needs assistance, than those on a large and more expensive scale.

We have but one thing to regret, and that is that we have not our proportion of the public funds to form a neucles, as it were to draw our efforts to a common centre. Could this be effected I believe our society would continue for years to diffuse the blessings of agricultural information and enterprise over the four townships, whose energy and public spirit have brought the society into existence and continued so long to sustain it. L. H.

Our thoughts, like the waters of the sea when exhaled towards heaven, will lose all their bitterness and saltness, and sweeten into an amiable humanity, until they descend in gentle showers of kindness upon our fellow-men.

The following excellent chapter of advice to farmers, is from the pen of a true friend of improvement, and one whose experience and observation entitle his opinions to much respect.—Ed.

Hints to Young Farmers.

Mr. Bateham:—In offering to your readers the following suggestions, I beg them to consider that it is only my wish to promote the true interests of the farming community. There are farmers that know better than I do, others that know, but do not think of it, owing mostly to want of energy, or their slavish submission to old customs. And, lastly, there is a large class that want information, and seek it. If I state errors, I wish to be corrected to my own benefit and that of others.

The task of the farmer, is, to cultivate and improve a given piece of land in such a manner as to afford him the greatest possible profit, and thereby the means for a happy and useful life. The qualities of soil, the chances of markets, the locations and other circumstances are so manifold, that hardly any two farms can be managed upon the same system. But the *first principles of husbandry* are the same for all places and all times, only their application is variable according to circumstances.

If a man selects a place for agricultural pursuits, he has to consider his tastes and his means, to decide upon a choice. But when the choice is made, it should be his greatest aim to make the most out of it, to do all he can, and *do it right*.

Men of ample means are very apt, because they are able, to buy a great many acres of land. But how uncertain will be their success, when they buy more land than they with their families can attend to. I will not say that with the high wages which have to be paid for labor in this country, they cannot make their business profitable; but the main question is, to get the help, and if got to keep it long enough, to reap profits from their labors. Besides, there will always be an objection to such proceeding, in a national point of view; because, the true greatness of our country, and the safest protection of her republican institutions consists in maintenance of the principle, that the more freemen cultivate their own soil and the less servitude is found, the more the general prosperity will be augmented.

The difference between new and worn-out land, between a timbered lot and a cleared farm, between sandy oak-opening prairie or heavy timbered land, the vicinity or the distance of a good market, the state of roads and presence of other means of transportation, the price of the different products, their scarcity or surplus, the chance of selling for cash or goods—these, and many more, are conditions for the choice of the system to be followed.

But system *there must be*, to guide like a star on the dark ocean, all the operations and management of the farmer.

On a given locality one kind of produce might be raised, that surpasses any other in the profits it affords. Every farmer with sound judgment and by close calculation, can soon find out which it is. But to follow the system of raising but one profitable crop, would only occupy one certain time of the farmer, and leave him without employment much of the time, and by being subject to the casualities of the season, depredations of animals and so on, is very apt to fail entirely sometimes, without leaving the hope that other crops would remunerate for the loss of that one; and taking the average of such a crop during a certain number of years, it will be found that its average profit expressed, is a great deal less than that of one good season. Hence it is always better to raise as great a variety of crops, as the leading circumstances allow.

Make choice of a system of cropping that does not alone exhaust your soil, but that enriches it, thereby bringing increased capital to yourself and coming generations. Make as much manure; get as much and save as much as you can; apply it in the most effectual manner; keep as much profitable stock as you can feed; keep your stock in such a manner, that it will afford you the largest reward; raise only the very best of each kind of stock; sow the very best kind of seeds, and cultivate them in a way to raise the best and largest crops. Raise no crop broadcast if you can help it, and allow no weeds to occupy the ground. Save manual labor, by the use of the best implements, machines, &c. The seed planter and cultivator, the subsoil plow and roller, must alternatively be used with your plows and harrows. Give the soil the influence of freezing in winter, by deep plowing in fall, and waste nothing that a bountiful Nature lets you harvest. Keep your domestic animals housed in sheds in winter; but let them have the liberty of using them or not, as they choose. Raise your own vegetables, plant, orchards, and make your home so comfortable and attractive that you and your children will like it better than any place else in the world. Be assiduous and laborious, but in the true limits, that health prescribes; *improve your mind* and those of your family; cultivate refined manners—they suit the homemade frock as well as the fine dress—and be open and true hearted; liberal and benevolent, and love your country above all party or private interests, and you will be a *model farmer* for others, will feel satisfied with yourself and do well in this world.

W. W.

Lucas Co. Ohio, 1848.

On Burning Clay for Manure.

In our paper of May 1st, we gave, (from the Horticulturist) an article on the use of Burnt Clay as manure; and as we deem the subject of much importance we now copy from the same work, the following remarks on the mode of burning, &c., taken from the Journal of the English Agricultural Society:

On Burning Clay.—I have great pleasure in communicating what I know of the benefits of burned earth as a manure. I have used it for wheat and for root crops with decided advantage, although I have not, unfortunately, kept a statistical account of the difference; still, so obvious were the results that I have been induced to use a much larger quantity the present season, and my neighbors are following my example. It was used at the rate of 1000 bushels per acre on a wheat field sown with clover, leaving the middle of the field undone. The benefit was striking, not only in the wheat, but in the young clover. The whole of the field had been top manured with guano, harrowed in with the seed Where the burned earth was not used, the clover plants and the wheat were inferior.

It may be proper to explain that it was not turfy earth full of vegetable matter, but a poor, cold, argillaceous, tenacious clay, such as is used for making bricks, yellow in color, but becoming when burned a pale red or orange: the interior of some of the largest lumps being black or carbonaceous (I presume the small quantity of vegetable matter concentrates there; occasionally this soil contains a fair proportion of round pebbles

The mode of raising and burning is this—a strip of land is broken up in very dry weather with Ransome's Y. L. plow, drawn by three strong horses abreast, and a Scotch equilibrium whippletree. So great is the resistance that it requires two men to hold the handles of the plow to counteract the leverage of the horses. The earth is thus broken, or I may say torn up in immense rough masses or clods as much as a man can carry, which are admirably adapted to form walls and supports for the mass of fire. By this means heaps of nearlg 200 solid yards may be readily burned. The earth being plowed up, the fires are formed on the spot, the workmen placing a certain quantity of dried stumps or wood of sufficient solidity to maintain a body of heat, and enclosing the mass with large clods. These are carried by hand: subsequently, as they get more distant from the fire, a barrow is used, and beyond that a one-horse cart.

It is important to have the sides of the heap as upright as possible—not conical—because the heat always makes for the highest place. An important point in burning is to supply the fire sufficiently fast to prevent its burning through, and yet avoid overlaying it, which might exclude all air, and put it out. Practice will indicate the medium. When the fire shows a tendency to break through, the outside of the burning mass is raked down, and more earth added.

If the ground is very dry, and no rain falls, the men are obliged to feed the fire almost continually night and day; but when there is moisture, it may be left for five or six hours, but seldom longer. Something depends on the current of air. A strong wind would blow the fire from one side and out at the other. This is guarded against by placing hurdles interlaced with straw as a guard to windward. The size of a heap is limited by the height to which a man can throw up the soil, and of course the diameter must be proportioned to the height, to prevent its slipping down. It is generally lighted so as to burn out by Saturday, and not require Sunday attendance.—This mode of burning may be essentially called summer burning, because we find practically that heavy rains put out the fires, or check their progress. Where fuel is abundant, or coal cheap, I have reason to believe fires may be kept up through the winter. I have this autumn plowed up, or rather broken up, and burned four acres of a poor rye-grass lea. This has produced 1600 cubic yds., 10 0 of which I have carted on to the neighboring fields, leaving 150 yards per acre on the field itself as a compensation. The cost per 100 cubic yards is as follows:—

Labor and burning at 5d	£2 3 4
Fire-wood at 4s. 6d. per fathom,	0 8 4
Plowing and horse labor,	0 8 3

Carting and spreading according to distance.

When spread, as there are many large lumps, we roll the field with Crosskill's clod-crusher in a dry time. This pulverises the burned earth, and we then bush-harrow to distribute it equally. Our young clover so treated promises well. As the portion of ground on which the fire is made is generally burned six inches below the surface, it is proper to dig it out and spread it around, otherwise so rank will be the corn crop there, that in spite of two or three flaggings, it is almost sure to go down and spoil.—I find burned earth exceedingly useful for clamping potatoes, Swedes, Mangold, &c.; but it is essential to allow roots to remain in a heap covered with straw three or four weeks previous to doing this, or they are apt to heat and rot, especially early raised potatoes. The reasons why earth burned must be beneficial are sufficiently explained by Drs. Liebig and Playfair. Of its cheapness as a manure there can be no question.

☞ Remember Thanksgiving Day, 23d instant.

HOUSEWIFE'S DEPARTMENT.

We take great pleasure in laying before our female readers anonther of the "Letters to Housekeepers," by MARIA. It will at once be discovered that these letters, (of which we hope for several more at least,) are the emanations of a mind of no common stamp. Already have several inquiries been made of us for the name of the writer.

Letters to Housekeepers, No. 2.

DEAR SISTERS:—In my former communication, I merely hinted at the necessity of so interesting the members of a family, that all would feel a deep personal interest in your evening entertainments. This is not a matter that admits of a precise formulary, or rules that will work with mathematical precision. Suggestions, that are designed rather to call out the originating powers of others, are all that in this case could be really of service. I rejoice that this is the case, and that in consequence, every Housekeeper is morally bound to digest a system for herself.

Were it true that one finite mind could assume a responsibility that is equally shared by all possessing the same general attributes, and sustaining kindred relations, it is evident that our moral responsibility might also be transferred, and we become mere machines, acted upon, and moved by extraneous force; but sustaining no higher relations to God than the unintelligent creature. Our capacity proves the responsibility and dignity of our nature; and at the same time it imperiously demands accordant action. We may be aided by the suggestions of others, but after all, it is for us to judge of their correctness, and if we follow them, make them our own by adoption.

Let no one adopt a mere suggestion as a rule of action without first weighing it in the balance of sound judgment, and fully considering its bearings. A plan that would work admirably in a cultivated family, might prove an entire failure in one where the members have been sadly neglected.

Age, too, should have much to do in the arrangement of your schemes for improvement. With the weakness and waywardness of early childhood, you could by no means adopt the rigid discipline of mind that youth would require to prepare it for its rapid advance to maturity.—And if your domestic circle combines these, then your wisdom is called upon to so legislate that none of your subjects shall have cause to feel themselves deprived of their just rights for the sake of advancing the good of others.

I know this is a wisdom that few of the governments of the earth have attained; and legislators, widely renowned for equity have maintained that it is just to require of the governed the sacrifice of a part of their rights for the sake of enjoying others more securely. With all deference to the wisdom of the wise, our simplicity would beg leave to question the soundness of the position.—Equity can demand the sacrifice of no *absolute right*, without rendering an equivalent.

There may be *relative rights*, such as grow out of our social relations, that may change their nature by a change of attendant circumstances, and these, duty may demand of us to sacrifice, and also allow us to demand the same of those under our control.

Fretfulness and ill humor are almost sure to prevail in families where the rights of a part only are regarded.—For instance, the older members of a family are deeply interested in listening to some entertaining volume, while the little ones are altogether unemployed both in body and mind. They will be restless and noisy as a matter of course, and the rest of the family will unavoidably be disturbed. Commands can rarely induce silence long, because the first law of our being is activity. It is one of our natural rights, and though it may be greatly modified, it may not with safety be too much abridged. Direction, rather than restraint, will be the true policy of the wise housekeeper.

So in regard to the various tastes of different members of your family. All have a right to a share of mental food suited to their capacity. The child that can just lisp a-b-c, will feel neglected if its little mental cravings are not satisfied.

The half discouraged school-boy will need to have his formidable tasks dressed up in a cheerful home array that will make him feel less a stranger to those terrible gentlemen, Ray, Adams and Davies. His young sister, too, will want not a little help in writing that long dreaded composition, while the young gentlemen and ladies will feel that they have a right to be entertained with Music, History and Poetry. Your own more chastened spirit and that of your companion will most enjoy the lofty poetry of Isaiah, the sublime melodies of David, and the heavenly purity of the teachings of Jesus.

It will be seen at a glance that both tact and talent will be required to so harmonize these varied tastes that no one will be required to sacrifice too much for the happiness of others, and at the same time, nothing should be allowed that would savor of selfishness. In contemplating this vast measure of responsibility, are you not ready to say, "Ours is no low place in the scale of being."

Our proposed limits are already exceeded and we have not yet reached the point where we intended to propose anything in the shape of a definite arrangement for the consideration of our friends. We must therefore defer this to some subsequent number. MARIA.

Franklin Co., O., Nov. 1848.

The following letter from an aged "Mother in Israel" was put in type for our last number, but crowded out at that time.

Hints and Reflections.

To those who with myself have been pleased, amused, instructed and benefited by the labors of our kind friend the late Editress of this department of the Ohio Cultivator, and who are likewise personally unknown, and therefore not so likely to hold in valuable remembrance her "labors of love," I wish to write a line or two. In the last No. in which Mrs. B. wrote, I noticed a gentle tone of dejection and disappointment, that more experienced housekeepers voluteered so little in meeting her kindly efforts for general good; and although I am nearly as young, and a much more inexperienced housekeeper, while at the same time, of years enough (nearly) to be her grandmother, I had half a mind to volunteer a line to encourage her to onward exertion notwithstanding our apparent supineness; and also to again point my readers to one great advantage derived to my family from the suggestions contained in her columns. But I did not, and just now, taking up the following number, noticing the dark lines and Editor's announcement of "domestic affliction," ah! said I, poor Mrs B. has lost a child—she is more sad now—and now I must write; though quite a stranger, we are of the *one family* of God's creation; and one small drop of balmy sympathy may not be unfelt amid the many from those near and dear; for well I know when the heart is scathed, like the fevered body, these drops of heavenly moisture dry up quickly.

But indeed I was sorry, when turning to the mourning page, I saw that she herself had passed away—like the early fading beauties of the garden, so often and so justly presented by her to our admiring cultivation.—And then I was glad, to know that we may truly hope she has been translated to the garden of God, where the flower never dies, and where Love and Beauty never meet the spoiler.

We thank—surely every one of us do,—the kind friend who has given us the interesting sketch of our unknown benefactress, and let not *her* hints be unheeded! Let a grateful remembrance of those "labors of love" now closed by the summons from on High, lead us to a more dilligent endeavor to *improve* in that line of duty in which she led the way with so much animation and delight. And to those who are jealous, and so indeed they should be, of the "one thing needful" even "the pearl of great price" remember, that the exhortation to "be perfect,"—i. e. to *aim* at perfection always, *embraces*, as a very important branch of female duty, just this line of occupation, and every, the *smallest particular* thereof.—This is one way of advancing the prophet Zachariah's glorious intimation, that "Holiness to the Lord shall be written on the bells of the horses;" our commonest avocation being done in our best manner, and done "*heartily as unto the Lord*, and not unto ourselves nor unto man."

And now, as I am an aged "mother in Israel," allow me one word more by way of caution. Remember, "there is a time for all things and all things are beautiful in their season;" not only flowers and fruits, but the various religious, moral, domestic, social, public and private duties of life. In private and domestic life, serve and know, *first* God, and then, depend upon it, you will be more ready to discern, and that quickly, the due proportion of time, as well as the right season, for the retirements of the closet, the family altar, and all the various calls of civilized society and social life. L. P. C.

BUTTER MAKING.

The hint received in these papers, to put a quart of boiling water in a bucket of milk before setting it for cream, raised my butter to high demand in our market, over that of my old housekeepers, either ignorant of, or inattentive to this process. But as far as my experience goes cream rises *after* a period of 36 hours standing.

Fairfield Co., O., Oct. 1848. L. P C.

To Preserve Tomatoes.

Scald and pare the tomatoes as for present use; mash, and put them in a brass or tin vessel with a little salt to make them palatable, then cook them briskly, till they are thoroughly melted, stirring them occasionally to keep from burning; then put them into bottles, and while boiling hot, cork them tight and seal with sealing wax.—Set them in a cellar where they will not freeze. (N. B. to prevent the bottles from breaking, put them in a kettle with cold water, and put it over the fire till it boils.)

JANETT.

A GOOD MOTHER.—She is a good mother who brings up her children to work; to work in the kitchen, if you please. We shall never have good puddings and pies, chowders and frickasees, while the ladies are taught that it is a disgrace to learn to cook. The time may not come when the daughters of wealth shall be obliged to take their stand in the kitchen, but should they not know how to bake and wash? What is a young woman fit for, to a farmer or mechanic especially, whose mother allows her to lie in bed till ten o'clock, and who, when she rises, sings a song or two, and sits down to the last new novel? She may answer for the wife of a wealthy fop; and a miserable life, miserable indeed, will she live. Far better for her, no matter what her condition may be, if she be brought up to work.—*Ex.*

To Use Flour of Grown Wheat.

The following method of improving the quality of bread made from flour of grown wheat, is new to us, and may prove valuable at the present time when such flour is too common. We dislike, however, to encourage the use of *whisky* in any form, and only publish this receipt for strictly teetotal families.—ED.

The flour of grown wheat will rise well and make good light bread, if a little whisky is put in the dough. The bread will not smell or taste of the whisky, it being all evaporated by baking. The reason of this, I suppose is, the spirit of the grain is destroyed by growing and when it is again restored the flour is good again. A. W.

Preserving Meal.

The following extract from the Patent Office Report for 1847, relates to a simple method of keeping Indian or other meal sweet. The process may be of value to the farmer as well as the shipper, for it is well known that meal, unless thoroughly kiln-dried, will keep sweet but a few days, if exposed to the warm air. Who will try it?

"The following simple expedient has been published as from good authority, and has moreover been attested as likewise applicable to rye. It was communicated to the New York Farmers' Club, by a gentleman who had been for twenty-five years in the ship store business: He says that he formerly found much difficulty in furnishing corn meal that would keep on long voyages, and in warm climates. On mentioning the difficulty to Zenas Coffin, Esq., one of the oldest whalemen of Nantucket, he was informed by him that there was no difficulty in keeping corn meal sweet for a three years' voyage, by putting a beach stone, the size of a large paving stone, in the centre of a hogshead of meal, and hooped tight, and for a barrel, a stone four or five inches in diameter, and made tight. Experiments were then made in regard to meal for the Rio Grande and other southern ports, by sending the meal with the stone and also without the stone, and on the return of the ship it was found that the meal with the stone in the centre of the cask kept sweet, while the meal without it was spoiled—*sour*. It is necessary to have the cask water-tight. The same gentleman likewise stated that corn meal in tight rum puncheons, when sent to the West Indies, will keep sweet, while in a common flour barrel it will spoil."

From the Pennsylvania Cultivator.

The Art of Making Dipped Candles.

The tallow, when melted, should be ladled into a wooden vessel of convenient width and depth, which has been previously heated by filling it with boiling water for an hour or more. Fill the vessel within an inch of the top with melted tallow, and keep it at that height by adding hot tallow or hot water. By this means the candles will be kept of a full size at the top, and not taper off to a point, as is often seen with country candles.

The tallow, when used for dipping candles, should not be too hot. A temperature that will allow the finger to be dipped in without burning, is sufficiently hot, and at this temperature the candles will take on the tallow very fast. The wicks should be lowered into the melted tallow gradually, and should be lifted out of the tallow so slowly that when the bottoms of the candles are clear from the surface of the melted tallow, no tallow will run off them. When the candles are raised quick out of the melted tallow, the tallow will run off the candles in a stream, whereas if the candles are raised out slowly, not a particle of tallow will fall from the candles. A few trials will satisfy any person in this matter. If the tallow is boiling hot, the wick will not take on the tallow to any considerable extent. When candles are raised out of the tallow rapidly, the candles will be large at the bottom, and the tallow will extend below the wick, so that when burnt in the candlestick a piece of the candle will have no wick in it; and therefore, for burning, will be useless. Where persons have no suitable wooden vessel, an iron vessel will answer for a dipping vessel. When tallow has been thoroughly melted over the fire, should it be dirty or impure, throw into it, while hot, a small quantity of finely powdered alum, and in a short time a scum will be seen rising to the surface, in appearance like dirty froth. Skim this off as it rises. This scum will rise for half an hour or more. These directions are plain and easily complied with, and one trial will be satisfactory. Persons, by following these directions, will save more than one half the usual labor of making candles, besides having better candles.

The Markets, &c.

LATEST ENGLISH NEWS has had no perceptible influence on the markets of this country. It is supposed there will be a steady export trade during the winter, if prices continue low as at present.

CINCINNATI, *Nov.* 13.—Flour 3,70@375, per bbl.; wheat 75 cts; Oats 25; Corn 31. Flax seed 85; Clover seed, new, 3,50. Potatoes 40 cts. per bu. Apples $1 per bbl. Butter keg, 11@12 cts—jar 14@15. Cheese, receipts large and trade brisk, at 6½@7 cts per lb.

Hogs are now purchased largely, prices ranging from 3,20 to 3,30, averaging 3,25 per 100 lbs net. *Beef Cattle* bring 3,50 to 4,00.

CLEVELAND, *Nov.* 11.—Flour 4,25, Wheat 85 cts. Corn 37½; Oats 18. Clover seed 3,25.

SANDUSKY, *Nov.* 13.—Flour 4,25@437. Wheat 83 cts. Corn 37. Oats 18.

NEW YORK, *Nov.* 13.—Flour $5,37@5,44. Wheat, prime white, 1,25 per bu. Corn 66@68 cts. Pork, mess, 12,87@$13.

COLUMBUS PRODUCE MARKET.

Corrected for the Ohio Cultivator, Nov. 15, 1848.

GRAIN.			Honey, strained	12½@	14
Wheat, ₱ bu,	75 @		POULTRY.		
Indian corn,	22 @	25	Turkeys, each,	34@50	
Oats,	19 @	20	Geese, "	@	
PROVISIONS.			Ducks, "	@	
Flour, retail, bbl,	4,25 @	450	Chickens, "	10 @	12
" 100 lbs	2,25 @		SUNDRIES.		
" Buckwheat,	2,00 @		Apples, bu.	25 @	37
Indian meal, bu	31 @	37	" dried,	50 @	
Hominny, quart,	3 @		Peaches, dried,	1,50 @	
Beef, hd qr	@		Potatoes,	40 @	50
" 100 lbs	3,50 @		Onions,	1,00 @	
" fore qr	3,00 @		White beans bu	1,00 @	
Pork, mess, bbl.	9,00 @	9,50	Hay, ton,	4,00 @	5,00
Hogs, ₱ 100 lbs,	2,50 @	2,75	Wood, hard c'rd	1,50 @	2,00
Hams, country lb,	5 @	6	Salt, bbl., fine	2,12½@	2,25
" city cured,	6 @	7	SEEDS.		
Lard, lb., ret.,	5 @	6½	Clover, bu.,	3,00 @	
" in kegs or bls.	@		Timothy,	1,50 @	2,00
Butter, best rolls,	10@	12½	Flax,	75 @	80
common,	9 @	10	ASHES		
in kegs,	8 @	9	Pot, 100 lbs	3,50 @	4,00
Cheese,	5 @	6½	Pearl,	4,00 @	4,50
Eggs, dozen,	9 @	10	Wool, common,	18 @	20
Maple sugar, lb.	7 @		half bl'd,	20 @	23
molesses, gal.	@		full bl'd.	@	
Honey comb, lb,	10 @	12½			

OSAGE ORANGE SEED,

OF superior quality, at the lowest price, wholesale or retail.—This seed has been fully tested by numerous purchasers during the past season, and in all cases has given entire satisfaction. For sale at Seed Store, north side fifth street, between main and sycamore, Cincinnati.

ALSO—Grape vines Fruit trees, Shrubs, Evergreens, Raspberry and Shruberry plants, etc. etc.

November 1, 1848. H. HUXLEY.

FRUIT TREES.

THE Fall being considered the best time for planting out trees we must recommend commencing now.

A CHOICE collection of almost all kinds of FRUIT TREES of large size, together with Gooseberries, Currants, Raspberries, Strawberry plants, Roses, etc., etc., also, a few hundred Catalpa and other ornamental shade trees, can be had at the Nursery of

Columbus, O., November 1, 1848. JOHN BURR.

CHOICE FRUIT TREES.

I Shall receive in a few days, a fine assortment of the choicest kinds of apples grown in Fairfield and Belmont counties and noticed in the Reports of the Ohio Fruit convention, as remarkable for long keeping and other superior qualities; such as Bawles Janette, Pryor's Red, Fink's Seedling, Wells Willow Twig, Bartlett, Cooper, Gate or Belmont, &c, besides most of the approved old sorts.

Also, on hand a fine assortment of PEACHES, including some very large and choice kinds, tested in this vicinity.

Also, a good supply of Cherry, Plum, Pear and Quince trees, and some ornamental shrubs, &c.

Columbus, O., Oct. 15th, 1848. M. B. BATEHAM.

☞ Persons intending to plant large orchards for the Southern markets, will do well to consult the subscriber before purchasing trees, as he has given much attention to the kinds of apples best suited for that purpose.

OSAGE ORANGE SEEDS AND PLANTS.
AT REDUCED PRICES!

THE Subscriber has on hand a supply of Osage Orange seed, warranted good, for sale at only $1 per quart.

ALSO—a fine lot of Osage Orange plants, of one year's growth, suitable for transplanting into hedge rows next spring, price $5 per thousand if two thousand or more are taken; or $1 per hundred for smaller quantities.

As many persons have failed with the seeds, there is now an opportunity offered for procuring this very beautiful and desirable article for hedges with no risk or delay, and very little expense. One thousand plants will set 500 feet of hedge—full directions for planting, &c., will be furnished each purchaser. Orders should be sent early.

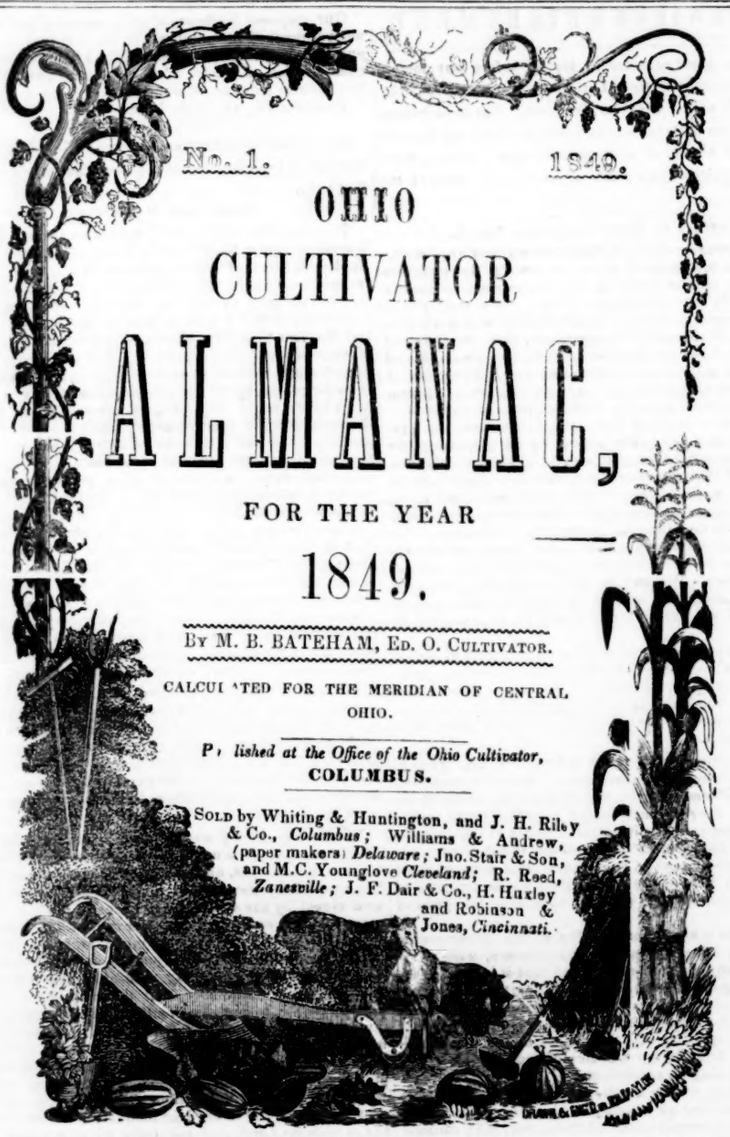
Columbus, O., Oct. 15, 1848. M. B. BATEHAM.

Choice Merino Sheep.

I HAVE seventeen yearling bucks, for sale, of pure Merino breed, among them the one for which I was awarded $10 and a diploma at the New York State Fair at Buffalo last month.

CHARLES BUTTON.

Franklin Mills, Portage Co. O., Oct. 15.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CULTIVATOR
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FOR THE YEAR
1849.
BY M. B. BATEHAM, ED. O. CULTIVATOR.
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The Ohio Cultivator Almanac, (of which the above is the title page) is now ready for delivery. It contains 32 large pages, well filled with valuable matter, on farming gardening, fruit culture, receipts for housewives &c.—illustrated with numerous engravings—making altogether the most saleable and useful Almanac to be found in Ohio.—Orders from booksellers and other retailers are solicited.—Price $5, per gross—$30 per 1,000.

FRUIT TREES.
Elliott & Co., Lake Erie Nursery.

THE proprietors of the Lake Erie Nursery, situated one and a half miles west of Cleveland, have just issued their new Catalogue of Fruit and Ornamental Trees, Shrubs, Roses, &c., &c.

The stock of Trees now on hand is probably the largest in the Western States, embracing over 100 varieties of Apples, 175 varieties of Pears, over 60 varieties of Cherries, 50 varieties of Plums, over 70 varieties of Peaches, Apricots, Nectarines, Grapes, Quinces, &c.

The stock of Ornamental Trees is large and among them are many of extra large size for street planting.

Of Shrubs and Roses nearly every valuable kind has been procured and is now for sale. Our rate of prices, which is very low, may be found in our Catalogue, which will be sent gratis to every post-paid applicant. ELLIOTT & CO.,

October 15, 1848. Lake Erie Nursery, Cleveland. O.

FRUIT TREES, IN MAHONING CO.

THE subscriber has on hand for sale, a handsome lot of Fruit Trees, comprising apples, Pears, Plums, Peaches and Cherries, also, some Grape Vines and Ornamental trees, &c., all of which he will sell at reasonable prices, at his residence in GOSHEN, Mahoning Co., Ohio, 4½ miles north west of Salem. All trees will be warranted to prove satisfactory. ZACHARIAH JENKINS.

August 15, 1848.

OSAGE ORANGE FOR HEDGING.

THE subscribers have received direct from Texas a large supply of fresh Osage Orange Seed, which they are prepared to sell at reduced prices.

We have also 100,000 Osage Orange Plants for sale, of vigorous growth. Price $10, per thousand.

JOHN F. DAIR & Co.

33 and 35 Lower Market Street, Cincinnati.

ADVERTISEMENTS suited to the character of this paper, are charged at the rate of 6 cents per line for the first, and 3 cents for each subsequent insertion.

FRUIT AND ORNAMENTAL TREES.

THE subscribers wish to inform their customers and the public that they have now on hand, and will offer for sale during the ensuing planting season, a large stock of Fruit Trees, consisting in part of

50,000 Apple Trees,	suitable	for	orchard	planting;	
20,000 Pear	do.	do.		do.	do.
15,000 Cherry	do.	do.		do.	do.
15,000 Peach	do.	do.		do.	do.

Besides large quantities of Apricots, Plums, Nectarines, Quinces, Grapes, and all the small fruits. The trees are vigorous and healthy and the collection comprises all the leading standard sorts, as well as nearly all the rare and choice ones recently brought to notice. All have been propagated under the personal supervision of the proprietors, whose care, experience, and entire devotion to the business, give the public a reasonable guarantee for accuracy. A large share of attention is paid to the culture of Garden Fruit Trees, and the stock of Apples on Paradise stocks, Pears on Quince, and Cherry on Mahaleb, is probably the largest in the Union.

All the famous NATIVE FRUITS OF WESTERN NEW YORK can be supplied genuine, propagated from bearing trees. Immense quantities of young trees, suitable for distant transmission, can be supplied.

The stock of Ornamental Trees is very large, and quantities for planting streets, public grounds, &c. or to dealers, can be furnished very low.

HEDGE PLANTS can also be furnished by the 1000 or 10,000, comprising Norway Spruce, Arbor Vitæ, Hemlock, Red Ceder, English and American Thorn, Buckthorn, Osage Orange, Honey Locust, Privet, &c.

50,000 Plum Seedling, one year old.

30,000 Quinces of the best sorts for pear stocks.

Besides large quantities of Rhubarb, Asparagus, Sea Kale, &c., and all other articles in the nursery line at reduced rates. Trees and Plants will be packed in the best manner and shipped to any part of the Union.

A new catalogue, for 1848 and '49, is just published, and will be sent, gratis, to all post-paid applicants. Wholesale catalogues sent when desired. Orders should be forwarded immediately. Address

ELLWANGER, BARRY & ROWE.

Mt. Hope Garden and Nurseries, Rochester, N. Y. Oct. 1st, 1848.